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Feature

Management Within The Transportation Corps
By General Yount

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On The Cover

Featured author this month is Major General Paul F. Yount, chief of transportation, whose Middle and Far East service in the Armed Forces has earned him 3 U.S. and 4 foreign decorations and numerous service medals.

Vol. 1, No. 10 July, 1955
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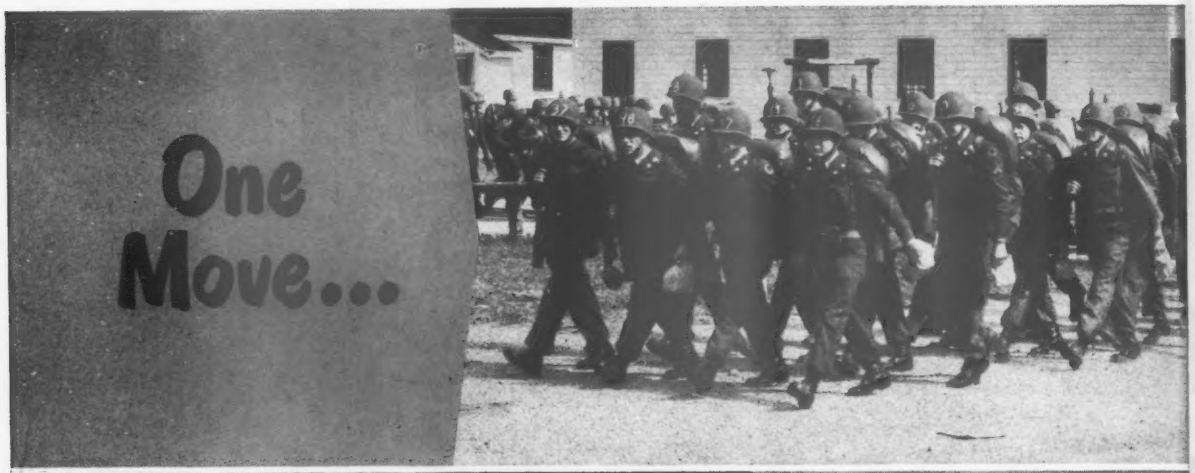

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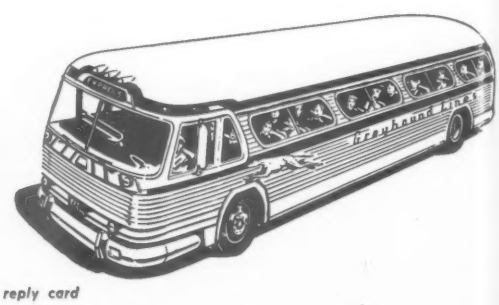

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January 21, 1955 **American Aviation DAILY** Page 128

MATS REPORTS SUBSTANTIAL SAVINGS FROM USE OF SIMULATORS

West Palm Beach AFB, Fla. -- The Military Air Transport Service is saving more than $4,000,000 per year in pilot training costs at its training center here through the use of five Curtiss-Wright flight simulators, MATS officials have disclosed. The simulators involved include three of the Boeing C-97 type and two Douglas C-124 type units, each costing about $800,000.

MATS officials said that these five simulators represent the largest single concentration of multi-engine flight simulators in existence. Although the USAF has taken delivery of 115 of 174 electronic simulators ordered to date, a large percentage of these have been single-engine aircraft simulators.

The first simulator to be installed at the MATS base, which was reactivated in 1951, was a C-97 unit delivered in November 1952. Since then, MATS has accumulated more than 20,000 hours of training time on the C-W simulators and trained more than 1000 crews. During the entire period total down time due to maintenance, during which training could not be made or completed, was only 138 hours 5 minutes. Average training time per day for the five simulators has ranged from 10 hours on the lowest time C-97 simulator to 13 hours on the highest time C-124 unit.

Comparison Values Being Developed

For general comparison purposes, MATS considers that it costs $30 per hour to operate a four-engine aircraft simulator compared with $350-$400 per hour for the aircraft. As yet it has not been possible to say that a given number of flight simulator hours are the equivalent of so much actual flight time but some specific values are expected to be developed by next summer. At present MATS is using several different ratios to gain practical experience on relative merits of the two types of training. In these tests simulator time ranges from one hour per hour of actual flight time, to 20 hours aircraft time to 30 hours simulator time, to 15 hours aircraft time to 38 hours simulator time.

Curtiss-Wright is expected to deliver the first C-118 (Douglas DC-6A) simulator to MATS this summer. It is one of five types of simulators now making up approximately $8 million dollars in simulator backlog at C-W. The other types include simulators for the Lockheed C-121 (Super Constellations), Lockheed C-130, Convair's C-131 (240) and the Boeing RB-52.

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ARMED FORCES MANAGEMENT is published monthly by the Professional Services Publishing Company, Roy B. Southworth, President. Publication office 404 N. Wesley Ave., Mount Morris, Ill. Editorial and Business Office, 208 South Second Street, Rockford, Illinois. Accepted as controlled circulation publication at Mount Morris, Illinois. Subscription Rate: $3.50 annually.
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ARMED FORCES MANAGEMENT

Publishing Office:
208 S. Second Street, Rockford, Illinois
Representatives
in
New York Chicago San Francisco Los Angeles

Management Within The Transportation Corps

by Major General Paul F. Yount, Chief of Transportation

THROUGHOUT history, transportation has been a major factor in the growth of countries and the success of their armies in battle. The ability to expand into new territories, to develop new markets, and to supply in ever increasing amounts the goods necessary to support the expanded markets has depended on the ability of available means to transport persons and things. This has been true since time began and is equally applicable to transporting of people and commodities in the growth of social and political economies as it is to moving and supplying armies.

A recent lesson of what can happen to a powerful nation and its armies when its transportation network is paralyzed is clearly illustrated in US Strategic Bombing Reports on the effects of the bombing of Germany and Japan. At the same time, the ability of the Allied Nations, and in particular the United States, to maintain 3,000 mile supply lines over which men and materiel were delivered to the right place at the right time, was without question a basic factor which contributed to their success.

Basic Policies Noted

The transportation demands of the modern Army are no different than those of a modern, highly, developed industrial economy, and parallel the needs of the same exacting services. The Chief of Transportation is charged with the responsibility for providing this service—to manage the movement of persons and things, and to determine the means by which they are moved for the Deparment of the Army, and as assigned for the Navy, Air Force, and other agencies. The basic policies which guide the management of the Transportation Corps are:

a. Transportation services and equipment constitute a major tool through the use of which the nation can achieve preparedness, both for defense and for a stable and progressive national economy.

b. Transportation services and equipment are not an end in themselves, but rather a means toward the end.

c. Transportation services and equipment requirements for adequate defense are inextricably entwined with the industrial and manpower capabilities of the nation; therefore, transportation management begins at the factory, ends where the soldier is, and vice versa. The Transportation system cannot be divided into a civilian part as distinct from a military part.

d. The Chief of Staff has stated, "static thinking, geared to past dependence on long, fixed lines of communications and depot systems," can no longer be tolerated; therefore, transportation service and equipment requirements must be viewed in the light of mobility and dispersion. The watchwords for transportation management thinking must be *Self-sufficiency, Adaptability, Flexibility* and *Efficiency.*

e. Transportation services and equipment must be provided at the lowest possible cost both to the Government and the civilian economy in the use of men, money and materiel.

The magnitude of the transportation operation of our Army today can be illustrated by the use of a few cost statistics. While the entire Army budget for Fiscal Year 1954 was eight and a half billion dollars, included in that figure were one and a half billion dollars of direct transportation costs. In other words, seventeen and a half cents out of every dollar was spent on transportation. It is to be noted that "direct transportation costs" does not include hidden indirect costs at all echelons of operations, such as, for instance, the inclusion of delivery charges in the price of items at the time of purchase.

Examples of direct costs are those covering what the trade refers to as first and second destination traffic. First destination traffic is that from vendor, or producer, to user, depot, or port of embarkation; second destination traffic is that from any intermediate point within the military supply system to another. These references are only to land or inland waterway transportation and do not include sea or air. Then there are those direct costs covering the movement of personnel, military and civilian, including dependents, and their baggage and household goods.

In connection with the amount of money budgeted by the Army for transportation and the responsibility of the Chief of Transportation to assure that the citizens of the country get a full dollar's worth of transportation service out of each dollar expended, it should be borne in mind that, while he is responsible for developing and defending the annual budget for such services, he does not in general have direct control of shipping requirements or the operations which provide the service.

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Lt. Col. Milton C. Devolites, MSA

IMPROVING MEDICAL RECORDS

By Milton C. Devolites

Lt. Colonel, MSC
Medical Plans & Operations Div.
Office of the Surgeon General
Department of the Army

THOSE of us concerned with Army medicine, no less than our civilian counterparts in the medical or hospital administration field, have always been asking questions, doing research—and constantly hoping—in an effort to find new ways of developing complete medical records at a minimum loss of the doctor's time, and a minimum of interference with his routine.

This is a brief report of the development of one system which was first proposed at Letterman General Hospital, and after a period of concentrated testing at the Walter Reed Army Medical Center in Washington, D.C., has been installed in several other Army medical installations.

The system provides remote control dictation for the production of medical records. Cost savings have resulted; but, equally important, we now have a minimum of interference with the busy routine of our doctors.

To properly record the steps in the development of this system, we must go back to 1950—just prior to the outbreak of the Korean War. At that time, certain construction changes were to be made in the Outpatient Building of the hospital at the Walter Reed Army Medical Center. The office of the Surgeon General, then under command of Major General George Armstrong, launched an investigative program to determine the feasibility of installing an electronics recording system for the production of medical records.

As a first step, representatives of Thomas A. Edison, Inc., manufacturers of electronic recording devices, offered to make a survey of present record production practices. This survey was undertaken in cooperation with representatives of the Medical Center.

This survey showed that the 157 physicians then on the hospital staff were producing an average of 249,074 words a day in the form of medical records—the equivalent of a 500-page book.

These words were originating from the doctors in three different ways—longhand, by shorthand dictation, or by mechanical dictation devices.

However, it was further found that, despite a staff of 51 medical secretaries and an inventory of nearly 100 mechanical dictation devices, nearly 40 percent of this average daily word production was being recorded by longhand. In other words, whether because of personal preference or inaccessibility of means of dictation, the doctors were laboriously writing their medical record notes almost half the time.

Obviously, this tremendous initial production by means of longhand was wasteful, both from a cost and time point of view.

The same study showed 28 percent of this average 249,074 words-per-day was being produced by shorthand—again, a system which meant for duplication, since the medical secretary still had to transcribe her shorthand notes.

The results of the survey indicated that a central electronics recording system could promote the efficiency of medical records production and prove a sound financial investment. Authority was granted for the installation of the Edison Televoice System in the Outpatient Service at Walter Reed Army Hospital, and a research project outline was developed by the Medical Plans and Operations Division of the Office of the Surgeon General.

The outline was predicated upon this experience:

"Longhand entries are often resorted to by the doctor as a matter of convenience, but are wasteful of the doctor's time and often result in a lowered quality of the

One of the four typing pools at Walter Reed. Secretaries, specializing in various kinds of medical dictation, use transcribing machines which can be adjusted for tone, speed and volume.

medical record. The dictating machines available at Walter Reed Army Hospital are principally acoustical recorders which are assigned to wards or offices on a basis of relative need. These machines are, for the most part, obsolete, cumbersome, poor in acoustical quality and usually insufficient in number to properly handle the workload.

"Because of these factors, most doctors prefer not to use the dictating machines, and resort principally either to longhand entry or direct dictation to ward secretaries. When the dictating machines are used, a delay in transcription of from several days to over a week often occurs because of the backlog in the stenographic pool, with resulting inconvenience to both doctor and patient.

"The doctor-ward secretary relationship itself is a doubly wasteful one. Skilled secretarial personnel, whose services cannot be fully utilized in medical transcription, are often delegated to perform odd jobs and errands around the wards. The doctor, because of the press of work, often delays his dictation until a later, more convenient period. All these conditions, coexisting, result in a loss of professional and clerical time, idle dictating machines, inconvenience or delay to the patients and lowered quality of the medical records produced."

Purposes of the test installation of the Remote Control Dictation system, then, were to obtain:

a) Maximum utilization of professional personnel through savings in the time spent in the production of medical records.

b) Increased efficiency in the use of clerical and stenographic personnel through the use of modern electronic transcription facilities which provide greater clarity of voice with resulting increased speed of transcription.

c) Production of medical records of the highest quality.

d) Elimination of delays in the production of medical records.

How could an electronic recording system accomplish these objectives? Perhaps this could best be answered by a description of the operation of the system installed at Walter Reed.

A medical secretary at work. Note file box of records to be transcribed, and medical dictionary at hand. The system makes possible a steady, predictable workload under conditions producing maximum efficiency.

The person doing the dictating—the doctor—merely picks up an instrument resembling a telephone, depresses a hand button, and starts to dictate. As he talks, his conversation is recorded on a disc in a machine in a typing pool. The pool may be several stories below, or in a completely different part of the building.

When the doctor is finished, he need only hang up the phone-like instrument. The disc upon which the record was dictated is taken from the machine by the typist, placed on a transcribing instrument, and the medical record typed.

In addition to the fact that the doctor need not be concerned with any operation more complicated or time-consuming than lifting a receiver and pressing a button, the workload of the secretaries in the pool is more constant and predictable.

The "four o'clock rush," when a day's accumulation of dictation cylinders might be delivered, is eliminated. The work-day of the secretaries begins with a transcription of medical records recorded through the night, progresses through an even tenor of transcription of the day's consultations and reports, and ends with comparatively "clean slates."

Furthermore, the secretaries are able to control the tone, speed and volume of the transcribers.

An even greater advantage of this system for the doctor is the feature which virtually guarantees no interference while dictating. If a doctor completes his dictation and hangs up when the record is

Dictation records are changed in a typing pool. A buzzer warns the medical secretaries when a record is nearing an end and should be replaced so the next doctor wishing to dictate will not be interrupted.

nearing the end, a buzzer immediately sounds on the recording machine in the typing pool. Secretaries in the pool know, by means of this signal, that the record should be changed. Thus, the next doctor wishing to dictate on that machine never experiences the frustration and inconvenience of starting to dictate and suddenly hearing a harsh buzzing in his ear indicating the record has reached the end.

If, on those rare occasions when a doctor dictates for the length of the dictation record, a subtle ticking sound near the end of the record warns him it is time to hang up—producing the buzzing sound on the recording instrument in the typing pool—and wait for a moment until the record can be changed.

Of course, the system is designed to allow the doctor to listen to

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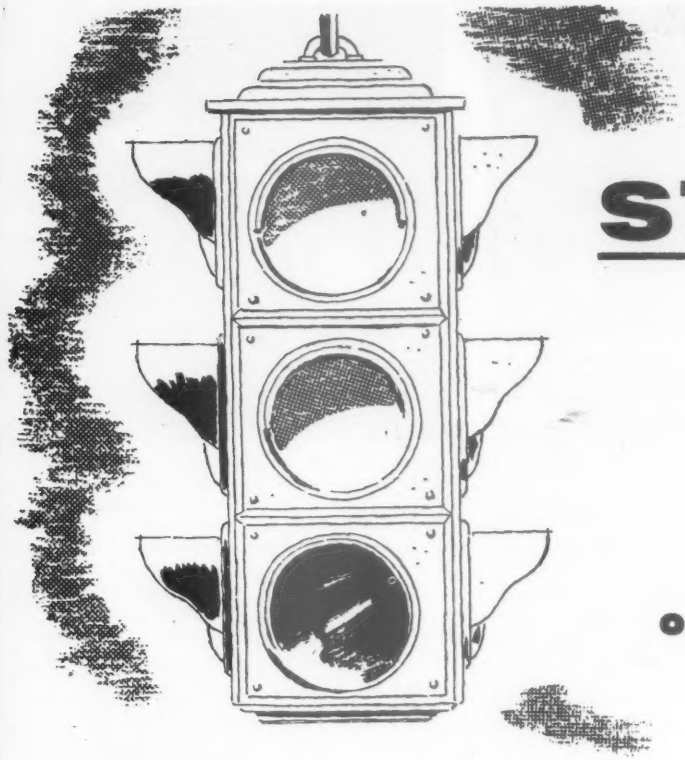
Using the Edison Televoice Remote Control Dictation System, a Walter Reed Army Medical Center doctor dictates a report of an operation as soon as it is completed.



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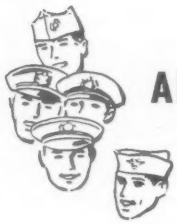

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The Role of the Railroads

by
Fred G. Gurley
President
Santa Fe Railway

IT IS always difficult to determine with a high degree of accuracy the so-called first about anything. I think it is generally agreed, however, that the first railroad in the sense in which the word is used today was the Stockton and Darlington Railway in England which was completed in 1825. The idea caught on, and within a relatively short time a substantial number of steam railways were in operation on the continent of Europe, in Great Britain, and in this country.

Because space does not permit review of rail transportation on a world-wide basis, I shall direct my remarks to the American railroads. I think this is appropriate not only because my closest familiarity is with our own system, but because the growth of rail transportation in this country affords a theme which I want particularly to emphasize.

The important role of the railroads in the development of the United States can be more fully appreciated when we recall that the future of this new nation depended upon making a success of an experiment in government, and that that great accomplishment depended in no small part upon finding an answer to the problem of communication and transportation. While it may not have been immediately apparent, surely the problem required finding a better answer than could be provided by the historic use of roads and waterways.

With the execution of the peace treaty in 1783, a new nation with a relatively small population living along the Atlantic Seaboard held title to a territory extending to the Mississippi River, some 1000 miles to the West. There were only rough trails across the mountain ranges to the vast area which became known as the Northwest Territory under the famous ordinance of 1787. This ordinance was passed by the Continental Congress prior to the adoption of our constitution.

The Northwest Territory comprised the region lying north and west of the Ohio River, south of the Great Lakes and east of the Mississippi. Ohio, admitted to the Union in 1803, was the first of the five states which were created out of the Northwest Territory.

The transportation of the commerce to and from this vast area was provided in large part by vessels on the Ohio and Mississippi Rivers. Movement via Natchez and New Orleans was through territory controlled by a foreign power. The whole valley of the Ohio was dependent upon the permission of a foreign power for an outlet to the Gulf. Trade restrictions and impositions upon river traffic became unbearable. This included confiscation of vessels, of cargoes, and imprisonment of crews.

In response to a feeling of general indignation, President Jefferson sent James Monroe to France with instructions to negotiate the purchase of territory which controlled movement on the Mississippi River. As it turned out, Monroe purchased the entire area controlled by France throughout the length of the Mississippi and which, in the central and northern sections, extended to the Continental Divide.

Control Need

The interesting part of all this is that it was the need to control an important artery of transportation which caused us to make the Louisiana Purchase. Without those lands it is clear that our subsequent expansion to the Pacific Coast, including the Republic of Texas, could not have been consumated.

The expansion beyond the western limits of the Louisiana Purchase to the Pacific Coast was accomplished first by an arrangement with Great Britain in 1818 for the joint control of Oregon. By 1848 California and New Mexico had been acquired, as had the State of Florida. Texas had been annexed and the United States had complete control of Oregon. The nation extended some 3,200 miles from the Atlantic to the Pacific.

The necessity for the best possible communication and transportation manifested itself quite early in our country's history. One of the first problems related to transportation between the Eastern Seaboard and the Ohio Valley.

In 1806 President Jefferson signed the bill which authorized building the National Road which started at Cumberland, Maryland. This road greatly facilitated the movement of commerce and aided in the development of the Ohio Valley, although its rate of construction was slow, and by the time it reached the Indiana-Illinois state line, about 1850, railroads were being built in many places and meeting with public favor.

Oddly enough, probably the greatest stimulant to the construction of railroads was the Erie Canal. Construction of the Erie Canal began in 1817 and it was completed by the State of New York in 1825. This canal made it possible to move by barge from Lake Erie to the Hudson River. This provided the City of New York with improved access to the area previously identified as the Northwest Territory, out of which the states of Ohio, Indiana and Illinois had emerged by the time the Erie Canal was completed.

The use of the transportation facilities provided by the Hudson River and the Erie Canal gave an advantage to New York City which was quite disturbing to the rival cities of Baltimore and Philadelphia. By what process could they better their position? The National

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Administration vs. Management Engineering

by Daniel L. Kurshan
Director of Administration
The Port of New York Authority

Meaning of Terms

The woods are full of etymologists who can spend an entire evening playing on fine distinctions in the differences between words. I am assuming that by "administration" we mean the responsibility for the accomplishment of programs. Typically, the director of any line department would be engaged in administration. By "management engineering" we mean the responsibility for recommending improvement in the techniques by which programs are administered.

There is an obvious area of overlapping in these connotations of the two words. For example, the supervisor in charge of a management engineering program is responsible for administering that program, and we would hope that the supervisor in charge of the administration of a line program would use management engineering techniques in the efficient discharge of his responsibilities. Since the main purpose of a definition is to give us a handle by which we can get a common grip on otherwise elusive concepts, I am hoping that these definitions will do for our purposes.

General Observations

Before plunging into the woods, suppose we take a last look at the trees all together.

1. To begin with, the extent of the conflict between the two varies directly in proportion to the size of the unit. The smaller the unit, the more likelihood that both administration and management engineering are accomplished by the same head and the same set of hands. Certainly, in a small organization, there is no separate unit devoted to management engineering, and the top supervisor is supposed to do the management engineering as well as the program development. Here we would assume that there would be no conflict (except perhaps in cases of split personality). The larger the unit, of course, the more likelihood that management engineering gets fractioned off into a separate entity, and the more likelihood that we meet the problem of conflict with which we are concerned.

2. There is an inevitable tendency for the administrator to be program-minded, that is, to devote himself primarily to making sure that his job is performed effectively on a day-to-day basis. On the other hand, the management engineer tends more to a long-range approach and to an emphasis on techniques and on efficiency rather than effectiveness. These are certainly not inviolate rules, but I do think they are human tendencies. To this extent I think they reveal deficiencies in the attitudes both of administrators and of management engineers. In other words, we might reduce the conflict if we could get administrators to put more time than they do on the long-range approach, and on the efficiency of some of their programs; and if the management engineer would be more concerned with meeting day-to-day problems rather than with ideal, but long-range solutions.

3. A third facet of the problem is the difference in perspective depending upon where the management engineering unit is placed. For example, management engineering may be sought from outside the organization—typically from private management consultants; or the management engineering group might be inside the organization but at a higher level than the administrative unit with which we are comparing it. In both instances management engineering would represent a higher level of management than the administrative unit and its recommendations or findings would be binding on it. In a third organization variation, the management engineering unit might be subject to the direction of the administrator responsible for the line program. How directly these differences in organization affect the reception of the management engineering effort is illustrated in the relatively familiar phenomenon—the administrator who screams about the findings of the outside management consultants and who growls about "stooges" that report on his performance to a level of management higher than he, who at the same time has no problems at all with the efforts of his own management engineers who report through a unit directly subject to his own supervision.

Reasons for the Conflict

The antagonism suggested by "Administration vs. Management Engineering" is especially revealing. Ordinarily, we assume that we are dealing with sincere people, all trying to do the most effective job they can, and all with the same, or approximately the same, overall organization goals. Why then the conflict?

1. I think that one of the keys to the conflict (where it exists) lies in the fact that all administrators think of themselves as experts in "management." No one who is worth his salt as a manager would dream to admitting that he is not an expert in the field, anymore than anyone would admit that he does not have

charm. The assumption, therefore, that someone else can tell him how to do even part of his job can be threatening. I'm sure that most of us here would not be disposed to dispute that our administrators are potentially good managers. However, the thing that must be emphasized is the factor of time. Our administrators are, by and large, preoccupied with the task of getting out their primary responsibility or program, and they regard the factor of securing added efficiency out of their operation as something to be looked at "tomorrow" when the pressure is off. Somehow the pressure never seems to be off, and "efficiency" gets lost sight of in the shuffle. Management engineers, not being under the pressure of getting the daily job done, have time to concern themselves with efficiency as such. Further, because of their special experience obtained from performing similar jobs in other units within the organization, they may be able to tackle a job of improving procedures with a minimum of lost time. That is, they know from experience how to get out gathering facts, organizing them systematically, and analyzing them.

A further reason for assigning the management engineer to certain jobs that as far as ability goes, could probably be done equally well by the administrator, is the need for centralization of certain functions of management. For example, an intelligent forms control program can be executed best from a central source, with a single unit with the specialized knowledge of uniform design criteria, and exercising a central control point, to keep forms down in number and up on the efficiency of their design.

2. The hostility of some administrators to the need to call upon an outside unit for management engineering may derive in part from the growth of the organization. Typically in organizations that have expanded rapidly – administrators who formerly supervised small units and were accustomed to doing all of their own management engineering are now confronted with a new set of controlling facts, with new responsibilities and what appears to be a staggering level of operational activity. They now have little time to do their own management engineering and just have to call on others for assistance if the job is to get done. Many find it difficult to make the necessary readjustment in outlook. Some are hardly aware of the transition.

3. Some of the "objections" by the administrator to management engineering may not be to management engineering in and of itself, but to management engineering as one of a number of "staff" units. Administrators are often disturbed as they see a trend in management for their own "management" functions to be fragmentized and in effect taken away from them and placed in central units not subject to their control. Typically, an administrator used to performing all of the managerial functions associated with his supervisory responsibility may find first a Personnel Department that appears to be taking away from him some of his responsibility and authority in personnel matters; a Public Relations Department that prevents him from the access to the press that he was used to having; an Engineering Department that takes away from him the people on whom he relied for engineering advice; a Purchasing Department, Financial Department, Law Department and so on down the line. The aggregate influence of all the staff or service agencies may give the ordinary administrator an acute pain in the neck! He feels that management is attempting to take his job away from him. This type of reaction is reflected in negative attitudes by some administrators toward staff departments—attitudes of minimizing the importance of the staff departments and of pretending that they don't exist. I recall vividly the day when I introduced our new Organization and Procedure Manager to one of our department heads; when I told this department head that our new man would head up the organization and procedures shop, he said, "Indeed, what does *it* do?"

4. Another factor that causes rivalry or irritation between the administrator and the management engineer is the development of specialized vocabularies. Management engineering, like any new art, tends to go for a jargon all its own, to prove its virility and to show that it really has arrived as a profession. While such language may be an effective shortcut for the management engineer in conversing with his colleagues, administrators sometimes suspect that it is really the result of the management engineer's desire to perpetuate himself by making the art so mysterious that only management engineers can understand it. This also creates some irritation for the administrators, who feel that management engineers are given to pretensions and sham. Another undesirable by-product is the difficulty of communication between administrator and management engineer. Typically, I have seen an administrator and management engineer sit down and discuss a problem for a half hour and finally arrive at a joint solution. Weeks later it turned out that the administrator seemed to be backtracking on the solution agreed upon. When we looked into it we found that this was merely a failure of communication, and a difference as to the meaning of words used between the parties. This is not uncommon when our various specialties develop peculiar

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ARMED FORCES MANAGEMENT would like to credit Master Sergeant Alvin Smith, USAF, for the fine article entitled "United States Air Force Academy Takes Shape" which appeared in our June issue.

Big Airlines Boost PCS Baggage Limits

Military personnel who travel on any of the scheduled airlines while making a permanent change of station will now be allowed to carry 66 pounds of luggage without charge. This applies regardless of whether they pay cash for their tickets or get them on transportation requests.

Previously, only personnel traveling on TRs were allowed 66 pounds. For those paying cash the baggage limit was 40 pounds.

The new 66-pound limit applies only to personnel making a permanent change of station. The new baggage allowance on cash tickets has been approved by the Civil Aeronautics Board.

Principles of Management

by Ralph S. Damon,
President, Trans World Airlines

THE GROWTH of Trans World Airlines, this year celebrating "Thirty Years of Service" on air routes in the United States and the start of the tenth year in international air service, is symbolic of the growth of a unique industry – unique because without any blazed trails to follow, it has developed into a healthy, growing industry.

Nearly thirty years ago, the few existing infant airlines shouldered three broad responsibilities when the U.S. Post Office Department turned over the air mail service and routes to private business.

These responsibilities – to expand the service technically, to develop a new form of commercial transportation, and to help make the young science of aviation an instrument of national defense – shaped overall industry policy. From these, guiding principles evolved as the airlines' role in the national life of this country grew.

How these goals have been and continue to be reached in increasing degrees, may be seen in a visit to any municipal airport today. To the more than 35 million people who flew the United States airlines, here and overseas, for business or pleasure, last year the airline industry is a "going concern" – highly integrated with the nation's industrial potential in peace as in war.

Thanks to the principles of free enterprise and fair competition, and to businessmen with long-range vision, we are a "going concern." We in Trans World Airlines have "telescoped" our basic principles into a simple slogan "Sell, Serve, and Save."

The degree to which we can Sell, Serve and Save is the degree to which we can meet our responsibilities to the groups interested in TWA as a business–the investors, the customers, the employes, and the public.

The commodity we have to sell is air transportation service. Over 33,000 miles of world routes, serving 60 cities in the U. S. and 21 world centers abroad, we offer our "space-product" in fast, safe, comfortable, modern aircraft.

Basic sales emphasis in TWA is upon making our product more readily available to more and more customers. TWA pioneered in the field of low-fare Sky Tourist service and today has a commanding position in this area as public acceptance continues to grow.

It was only in 1931 that customers and their goods were flown in "primitive" aircraft at an average speed of 90 miles an hour, at a cost of 12 cents per mile.

Today, they fly much farther and much more safely in the best-engineered airliners at speeds of better than 300 miles an hour, at an average fare of 5.39c per mile–and only 4.15c per mile on Sky Tourist service within the United States.

Today, even under inflation and high prices, air travel remains the best "buy" on the market, based on the dollar value of 1939. In terms of the 1939 dollar, today's food dollar buys 42c worth; the air travel dollar buys 90c, standard, and $1.24, Sky Tourist.

Apart from the selling of our product to the public, we are continuing our efforts to increase public interest and confidence in air transportaion and in *us,* TWA, through an active public relations program. Management's communication with community and government is effective only as this program is effective. The exercise of good public relations at all levels is encouraged–it is not the exclusive prerogative of any one department–so that a good reputation outside the company may be built.

This is "outward" selling. How do we "sell" our investors and our employes on *us* as a company? No company can be said to have a good management unless its investors prosper. Indeed, no company is a good place in which to work or to patronize unless it is a healthy, growing, prosperous concern in which investors can have confidence.

To date, despite the best efforts of managements, tangible returns to the investor in air transportation have been rather slender. As a young and rapidly growing industry, it has displayed an insatiable appetite for new capital with which to buy newer, larger, faster airplanes and ground equipment to match the growth.

The regulatory agencies–applying theories more applicable to older public service enterprises–have never allowed the airlines a rate of return in prosperous years which could attract equity in sufficient quantity to meet the growth. Therefore, airline managements have been forced to minimize dividends and retain earnings for expansion, in addition to heavy borrowing for new equipment.

Within this framework of regulation, the only satisfaction the stockholder has had in most cases is growth in the value of his holdings. For example, the stockholder of TWA has seen the net worth of his company increase from slightly over $10 millions at the end of 1948 to nearly $67¼ millions at the end of 1954. Book value per share of stock has increased from $5.04 to $20.14, primarily through retained earnings. Stockholders' equity per share has increased 176% in the past five years. Meanwhile, however, they have received no cash dividends. This is a situation which must change.

In the case of TWA, further evidence of favorable growth and financial record is the fact that we have achieved these results without any subsidy from the United States Government. In fact, TWA's

domestic operations have been completely unsubsidized for many years, and its international operations have not received a penny of subsidy since 1952. We believe that we have become the first airline under either the United States or any foreign flag to operate transoceanic services without benefit of Government subsidy.

"Selling" employes on TWA goes beyond the basic securities of retirement plans, vacations, safety and health programs, hospitalization and medical insurance. Beyond a reasonable satisfaction in wages and working conditions, men and women want to feel they have a part in building something significant, important in the community, and permanent.

TWA recognizes the obvious fact that a loyal group of employes is as much of an asset as its fleet of approximately 150 fine aircraft. They are our "natural resource" from which future intelligent management can be developed.

Today, management finds it can achieve greater efficiency, realism and democracy in its operations through the decentralized delegation of authority. This is especially true when a company includes a foreign operation dealing with many nationalities, customs, languages, currencies and systems of laws.

With virtually no organizational chart, TWA's central management decides the broad policies concerning what is to be accomplished, and then local management is given the responsibility of carrying out these policies by its own methods. Such procedure permits flexibility to operate—it doesn't "freeze" the job or the man but allows him to develop to the best of his ability.

Management in TWA, whose employes number over 15,000, is represented by about one-tenth of that number. Each plays the role of "Mr. TWA," whether he is district sales manager in Boston, overseas maintenance superintendent in Paris, or district operations manager in Dhahran, Saudi Arabia.

The company's extensive routes on 4 continents fall into logical geographical divisions or regions. A manager for each region travels extensively, visiting the various stations in his region. His function is to advise, supervise—and to aid.

"Communication" of top level company policy and goals all the way down the line is essential for clear understanding and additional satisfaction to employes from their work.

In addition, management must sell employes the desire for self-improvement and greater initiative. Management must point out opportunities for these, particularly to the large number of its people who come in contact with the customer —to sell and to serve.

The need for good salesmanship, courtesy and the anticiaption of customers' needs are of paramount importance today. A TWA ticket agent may rely heavily on his procedures manual, but at the foot of each page is an invitation to independent, self-reliant action:

"Nothing in this manual replaces the exercise of good judgment on the firing line."

Various training programs are presented within the company. Some involve additional technical training which develops high standards in specialized areas.

Basic training programs, essential to the corporation with overseas offices, involve thorough teaching of tested methods of accomplishing jobs to develop the desired cooperation, fundamental in all such operations.

Further incentive—in serving and saving—is the award system for suggestions, inventions, and red-tape eliminators in all divisions of the company. Back in 1930, when young TWA numbered 477 employes, a mechanic invented a tail-wheel lock which prevented the skittish air mail planes of that day from executing a hair-raising runway maneuver known as a "ground loop." He received an award of $25.

This spring, a master mechanic at our Overhaul base in Kansas City won $651 for his suggestion to standardize on one low-material-cost washer in the aircraft engine modification kits.

Such incentives result in a feeling of belonging in employes — important to furthering our efforts.

This feeling is encouraged in other ways. Employes are kept informed about the activities of their co-workers, other divisions of the company, and on all developments affecting company welfare, through a high-calibre employe publication.

In addition, our "product" is made available to all employes. TWA has a pass system, encouraging air travel during days off and vacations. Outlook, tastes and understanding are broadened. Our foreign national supervisors are encouraged to take familiarization flights to the United States. This is an important factor in cementing friendly ties and increasing international understanding.

Equal to the principles of Sell and Serve is the emphasis placed on the hard realistic principle of Saving. TWA has been active and aggressive in the area of cost control. With all cost factors working against economies — capital costs, labor rates, parts and supply prices, airport charges, rentals and general taxes—TWA's strict budgeting reduced costs in 1954 some $19 millions over 1953 costs.

The increase in Sky Tourist services on our domestic and international routes contributed to lower costs, in the first instance. The average domestic haul per tourist passenger in 1954 was 1,250 miles, compared with the first-class passenger average of 500 miles. It follows that reservation, ticketing and handling costs per first-class passenger mile are 2½ times that for tourist passengers. Savings in this "department" amounted to $2,250,000.

High utilization of aircraft, "tightening" up of schedules by a resurvey of scheduled flight time patterns between individual points, and similar efficiencies in certain maintenance functions accomplished the additional savings.

The "Sell, Serve and Save" principles and projects provide guidelines by which we can strengthen our prospects of a long-range, continually growing and efficient enterprise—meeting the need to reach national and international markets and furthering world trade and cooperation.

The Spanish American War saw 381,000 men in service, World War I, 4,613,000, World War II, 16,500,000.

GROWTH THROUGH MANAGEMENT OF THE TRUCKING INDUSTRY

by Mr. Earl Buckingham, President, Buckingham Transportation, Rapid City, South Dakota

THE PLACE of the motor truck in our transportation, if we are to assess it properly, requires the understanding that the word truck is an all-inclusive term for a variety of motor-driven vehicles that perform many kinds of services.

The trucking industry is made up of specialists. From the light trucks that deliver bread or laundry, through tank trucks that carry petroleum and other fluids, on to cement mixers, carriers of heavy machinery and household goods, auto carriers, munitions carriers, local operators and interstate common carriers, there is wide variance in size and weight, and kind of service. Truck transport can easily be described as a tailor-made transportation service.

In half a century the motor carrier has revolutionized our transportation. It can properly be called the mainspring of our economic upsurge, reaching, as it does, virtually every community, and giving all of our people equal opportunity to share in our abundance. There are more things within our geographical reach than ever before, only because the truck will bring them. And, with the employment level that we have, most of the products of the country and world are within the financial reach of our consumers.

Our Nation is not static. It is dynamic in its expanding economy. If we accept the famous dictum that transportation is civilization, then transportation cannot be static either, but dynamic in every phase of its operations, and particularly in its thinking.

Nor is the trucking industry static. Its flexibility makes it almost completely adaptable to the changing needs of a dynamic economy. It has been—and still is a compelling factor in our nation's growth, because it has always been able to satisfy particular transportation demands as they arose. It points to the past only as a means of measuring the present; it points to the present only as a way to show its capabilities; and to the future to indicate the services it can and will perform in the years to come.

The industry has grown to its present size and importance for only one reason—because the shippers want trucks on the roads to give them the kind of services that no other mode of transportation can perform. Our company, for example, celebrated its 25th anniversary last month. Providing a service to our military and commercial customers, we have grown from a single truck in 1930 to more than 400 units in 1955—from a humble beginning to a company grossing 5½ million dollars a year.

It has taken all of this century for the trucking industry to reach its present state. Trucking, we are told, began around 1900 in Denver, but actually, its origin is obscure. Then a St. Louis newspaper bought a fleet of 14, complete with curtains and all the operating levers on the inside. Boston joined in, and a few venturesome municipal officials braved the wrath of the taxpayers, and replaced horses with horsepower in their fire engines.

General Pershing is credited with inaugurating the use of trucks in the military, by ordering a dozen for the 1912 Mexican campaign. They didn't arrive until the campaign was over. But, by the time he and the American Expeditionary Forces had moved to France in 1917, the truck was sounding the doom of the cavalry. Truck manufacturers were deluged with orders, and the combination of their long drive to Atlantic seaports with their notable performance in getting supplies to the trenches through French mud, put a spotlight on the potentialities of truck transport, and on the need for adequate highways.

In the 20's, with high employment and a booming production of automobiles and trucks, our highway system grew. The wartime performance of the truck in relieving congestion around railroad terminals, and a certain amount of experimentation in long hauls by truck, was impressive to shippers and to potential truck operators. Cities were linked by concrete roads, so it was natural for intercity motor freight traffic to increase, and the shippers became interested in the ability of the truck to move shipments rapidly and with directness.

Faster Supply

Trucks reached speeds up to 30 miles an hour, as pneumatic tires replaced hard rubber and the gasoline motor became more efficient. Response to an insistent demand for improvements of secondary roads gave farmers an incentive to purchase automotive equipment. They found they could reach markets and sources of supply faster and with more convenience. Their land increased in value as they were linked with better roads to surrounding communities. They pushed their production as their market widened. The cities got more and better farm products, and the farmers got more return from their efforts.

The gasoline buggy had come a long way. Truck operators who

entered the for-hire business experimented with longer hauls, as specialized equipment came into being. America's greatest period of industrial growth was paralleled by the growth of the trucking industry, and the motor carrier was an important force in transportation by the time the 1929 depression came along to interrupt, temporarily, the Nation's 20th century economic progress.

It was in the 30's that the trucking industry showed its strength. Merchants began to see the advantage of ordering small lots delivered frequently by truck. The industry as a whole showed a remarkable resistance to bad times. In 1930 the total inter-city business by for-hire carriers amounted to 20 billion ton miles, higher than the year before. In the low spot of 1933 the decline was only eight percent from the previous year. But as the depression spent itself, the total rose sharply to hit a peak of 63 billion ton miles in 1941.

The emergence of the industry as a potentially major carrier of freight led to the enactment of the Motor Carrier Act of 1935, by which the Congress placed the industry under regulation of the Interstate Commerce Commission, assuring it of the same opportunity accorded other forms of transport, and expressed in the national transportation policy—that it could develop according to its own characteristics.

There was a letdown in nationwide operations during the Second World War, because of restrictions on truck manufacture, and because the available truck fleet went into the enormous program of short hauls that brought thousands of additional small defense plants into war production.

The industry hit its full stride in the postwar years. Perhaps no other industry before or after, has been so instrumental in changing the living and working habits of the people of the country. We have seen an enormous expansion of industry and population in the decade since the war ended. More people need more things, and as our mass-production system grew and grew, it is fair to say. that it could not have grown so rapidly if the truck had not been there to spearhead the mass distribution that is so completely a part of our economic structure. No American home is too remote, in these days, to share in the national wealth.

The proximity to cities is of no concern for thousands of persons who have moved to areas where their primary dependence is on trucks.

This shift of people has attained enormous proportions. Not only people, but industries, are moving to areas where they can be served only by trucks. Shopping centers are springing up like never before. Independent retailers are finding them their best chance for survival. A reputable national business magazine took a look at this flight to Suburbia not so long ago. They found that of our 165 million population, just a little less than 100 millions live close enough to cities of 50,000 or more to be classed as residents of metropolitan areas. Of these, nearly 40 percent live within city limits, and 60 percent live on the fringes or within reasonable commuting distance, so that we have about 60 millions living in what we call suburban areas. It's revolution in living habits, and the motor vehicle made it possible.

That is a remarkable set of facts. But an even more signfiicant aspect is that, while the total population of the country increased 11 percent between 1947 and 1953, the rush to suburban areas was so great during that period that their total population increased four times as fast, almost 44 per cent.

Industry Growth

The study points out that a different kind of population movement is also helping to build up the suburbs. That's the growth of industry in outlying areas. War industries started that trend, but it has remained, and grown. Westchester county in New York, has estimated that in the year preceding July of 1953, some 125 sizable concerns had moved, or intended to move to that county. That kind of movement too, is a national trend. The vast airplane manufacturing industry and many others extending over from the war, found peacetime profits by continuing operation in many of our cities, which in many cases were away from railroads.

In its development, the motor carrier industry has become an integrated part of the operation of almost every other type of business. Today's methods of production, distribution and marketing of commodities are patterned to the flexibility, economy and use of motor trucks. Modern wholesaling and retailing techniques depend largely on truck transportation. In manufacturing, it is no longer necessary to maintain great warehouses, because the modern warehouse is on wheels, with the raw or processed materials coming to plants from hundreds of miles away, on rubber tires and on precise schedules. The manufacturer likewise is able to get his finished product away to wholesalers or retailers on short notice, perhaps overnight, because his own, or for-hire trucks are available to keep warehouse inventories down at both ends of the lines.

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An Axiom and Committee-Meeting Build a Business Success

By ROY FRUEHAUF

President, Fruehauf Trailer Company

YOU of the Armed Forces have an axiom: "An Army (or Navy or Air Force) is only as good as its officers."

And, in my opinion, an individual industry is only as good as its officers or, as we say, key men. The parallel reached, too, from the foreman (non-com) to the supervisor (lieutenant) to the department head (captain) to the division head (major) and on to the president (general).

At Fruehauf we depend primarily upon the committee-meeting system. We think it is good. Fruehauf builds and sells from 40 to 45 percent of all the trailers manufactured in the United States. And we are only one of 150 (that is right—150) in the trailer-making field.

The system seems necessary to me, just as staff meetings likely are necessary to you for the Armed Forces. We are far-flung too, with nine plants located coast-to-coast and in Canada 71 factory branches and 13 distributors in the United States; subsidiaries in Brazil and France, and 78 distributors in other foreign countries.

But the committee-meeting system can be an awful evil, if it isn't watched carefully and if each committee doesn't have at least one strong individual on it. They must have more than just "Yes-Men."

I vividly recall the comment of the late William Knudson, then president of General Motors Corp., when (Brig. Gen.) Charles A. Lindbergh planned and flew his solo across the Atlantic.

Mr. Knudson said: "It really would have been news if he had done it with a committee."

After work is parceled to our committees at Fruehauf and their best judgments are in I weigh all the elements, particularly watching for pitfalls, and then come to a decision.

We have seven standing management committees. Their assignments are obvious from their titles. They are, with their personnel:

Policy Committee—President (who serves as chairman), Executive Vice President (who serves as vice chairman), First Vice President, Vice President in Charge of Sales, Vice President and Secretary (who serves as secretary of meetings), Vice President in Charge of Engineering and Manufacturing, Financial Vice President, Treasurer, Controller.

Operations Committee—President, all Vice Presidents, Controller, Director of Branches, Director of Purchases, Representative of Manufacturing Department, Used Trailer Sales Manager, President of the Fruehauf Finance Company, General Sales Manager, Administrative Assistant to the President, Traffic Manager, Treasurer, Chief Engineer, Director of Personnel, Assistant to the Executive Vice President, Chief Cost Accountant.

Advertising, Sales Promotion Committee—Vice President in Charge of Sales, Director of Advertising and Sales Promotion, Director of Research, Director of Branches, Assistant to the Director of Branches.

Manufacturing Committee—Vice President-Engineering and Manufacturing, Controller, Director of Personnel, Director of Purchases, Executive Engineer, Chief of Industrial Engineering and the Executive Vice President.

Product Development Committee—President, Executive Vice President, Vice President-Director of Sales, Vice President-Engineering and Manufacturing, Administrative Assistant to the President, General Sales Manager and Executive Engineer.

Schedule Committee—Executive Vice President, Vice President Engineering and Manufacturing, Administrative Assistant to the President, Director of Purchases, General Sales Manager and two (Scheduling) Department Representatives.

Credit Committee—Treasurer, General Credit Manager, President Fruehauf Trailer Finance Co., and two (Credit) Department Men.

Industry is governed by a multiplicity of complex federal and state regulations, so our legal counsel is required to sit in on all committee meetings.

It is the only way you can be sure, or reasonably so, that you're not violating the law nowadays—whatever you are deciding.

The Policy Committee meets every Monday; Schedule once a month.

There is, in my opinion, an element of risk in any business (or military) decision. You must have courage of your convictions and work hard enough to make them come true.

Whenever I tussle with a particularly vexing problem that takes extra time and caution, I usually get away from the push-and-pull for a while. Frankly, I take off for a rather isolated place we have in Canada, even in snow-bound winter. I mostly read and rest and let my subconscious mind work as I relax. Haven't you, too, had a snap-of-the-finger solution come to you when you were thinking about something else?

Just as an Army commander must keep in touch with his various posts and know first-hand what conditions are at all, I find that I must, to know as much as I should know, visit our plants and branches personally and often. My air mileage was well over a million before we got our own planes. It is on the top side of a million in Fruehauf planes now, and goes up nearly every week.

Of course, no human or group of humans is infallable. And an executive (or officer) who will not retreat quickly when he sees he has made an error is unintelligent. He is dumb. It is folly to go on with a bad decision.

And that brings me to this observation: I don't think my decisions or those of any other executive are any better than those of the key men. Your intelligence (in the military sense) must be good.

Key men at Fruehauf are told with considerable forcefulness that poor information is worse than none; that if they don't know they should say so.

Fields of operation are spelled out and executives are given a lot of latitude to promote independent thinking. If there is one thing I hate it is having one of my men trying to find out what I'm thinking and following that line.

I want good, honest disagreement if any of my men have a different idea. Any decision based on a foundation with a flaw will undermine itself.

One of my key men (I found out from the story) recently told a newspaperman: "Roy gives you a minimum of direction. He expects you to take hold, nose in and get the details if you don't know 'em, not come running to him. It puts you on the spot pretty often, but you learn a helluva lot."

He might have added that Roy Fruehauf pretty often learns a helluva lot from what that fellow and the others learn.

Which now brings me to something I'll always remember from my father, August, a Detroit blacksmith and wagon builder who founded the Fruehauf Trailer Co. It happened when I was seven.

Father told me to get him a packet of Yankee Girl chewing tobacco. Dutifully, I went to the neighborhood store. It didn't stock Yankee Girl. Father exploded when I told him and handed his money back: "Is that the only store in Detroit? Go get me some Yankee Girl and don't come back without it!"

I learned right then that to get things done right in this world you have to follow through.

One of the more interesting articles I have seen in a good while was that of former Army Under Secretary John Slezak in the December issue of ARMED FORCES MANAGEMENT on the new emphasis being given to logistics by the Army.

I found this excerpt particularly striking:

"In the new organization we are realigning the Army Establishment into two major mission areas. This is in recognition of the fact that different techniques of management are needed in producing and managing material, and logistic services, from those used in training and controlling tactical troops and operations."

In other words, normally you wouldn't hire a prize fighter to be a cook or a piano player to be a tractor-trailer driver.

Fruehauf likes to hire people who know their business.

And while on this business of logistics, the urge to get a plug in for the trucking business can't be resisted. In the Armed Forces, as among the civilian population, as the saying goes: "Everything you wear, eat or sleep in comes, at least part way, by truck or trailer."

Admiral Robert B. Carney bemoaned the complexities of dealing with a vari-viewed Congress in a recent article in ARMED FORCES MANAGEMENT. We in the truck-trailer business not only have Congress and the government agencies it creates—but also 48 State Legislatures to deal with.

For instance: A fellow from Wisconsin came in and wanted a trailer to carry 46,000 pounds of cheese. I told him: "I can fix you up with the best trailer you ever saw. It can carry 46,000 pounds of cheese like you would carry a feather on your back. But I have to warn you. If you drive across the state line into Minnesota, you will be in trouble. The State of Minnesota says a trailer can only carry 45,000 pounds of cheese—or anything else."

That may seem funny to you, but, I assure you, it isn't to us of the Highway transportation industry. Neither is it an outlandish example of the artificial restrictions we bump into.

While weight differences may vary from state to state, so, in many cases, do permitted lengths and widths and the number of wheels for various weights. Fruehauf builds for the whole U.S.A.

Which brings me to a matter which should be of as much interest to the Armed Forces in the matter of national safety as it is to us whose daily bread comes from the nation's highways—and those whose daily bread comes by the highways.

Did you know there are more than 25,000 communities which depend on trucks and trailers alone for their entire commerce? They have no railroads.

Also, did you know that 98 percent of the country's agricultural production (the stuff that feeds the stomach that an army marches on) is hauled by truck or trailer? That one job in every seven in this country is provided by the trucking industry?

Fruehauf alone employs 9,300 in its plants and its payroll tops $40,000,000 (M) a year. Nationally, there are five million truck-tractor drivers, plus a million maintenance men, or six million in only two categories of the industry. To mention a third, a million and a half petroleum workers are required to feed truck carburetors.

Now with these statistics in mind, let's talk about our highways.

As a starter, I'd like to point out that highways are primarily ar-

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Since its inception in February, 1942, Army Emergency Relief, organized to supplement efforts of the American Red Cross in assisting members of the Army and their families in financial emergencies, has disbursed more than $22,000,000 (M) in loans and grants.

What's NEW in Suggestions?

Fort Belvoir, Virginia (Research & Development Laboratories). A self-propelled hydraulic power jack has been developed with the Kershaw Manufacturing Company of Montgomery, Alabama, to speedup surfacing of railroad tracks. Propelled by a hydraulic motor with a two-speed transmission, the unit has a working speed of 3 miles per hour, and has rail "dogs" which operate automatically on any size track as the foot is lowered between ties. The unit can be operated by one man, and can be removed from the track in less than two minutes.

NSC Oakland's Stockton Annex. Mr. Earl R. Bates, Property and Disposal Supervisor, has been awarded $375 for improved operating methods which have saved the Department of the Navy more than $100,000. This is the first Totle X award won by an annex employee.

McClellan Air Force Base, Sacramento, California. Mr. Warren C. Johnson, a Production Controller in the Field Liaison Division of Maintenance, became the winner of the first "Civilian of the Month" award and was granted a Superior Accomplishment Award in the amount of $270. ARMED FORCES MANAGEMENT is pleased to report the management activities of SMAMA in almost every issue. They certainly have a very fine program.

Naval Research Laboratory, Washington, D.C. The entire staff of the Laboratory are proud of Mr. John Clarence Link, an electronic scientist in the Radio Division. Mr. Link was recently presented with the "Distinguished Civilian Service Award" by Assistant Secretary of the Navy James H. Smith. The ceremony in the Pentagon was attended by Rear Admiral F. R. Furth, USN, Chief of Naval Research and Link's fellow scientists at the Laboratory.

Brooklyn Army Base, New York. A suggestion recently paid-off for Mr. James J. Martin who is $450 richer for devising a pre-sorting plan to reduce manpower costs. This plan eliminated extra labor charges formerly required to sort hold baggage shipped from staging areas (Fort Hamilton and Camp Kilmer) for overseas movement and saved $44,534.31 yearly. The award of $450 is the largest single cash award this installation has been authorized to grant and is very close to the maximum of $475 which may be granted by commanding officers.

Navy Accounts Disbursing Office, Guam. A weekly preventive maintenance program in cooperation with the Public Works Division, for economical upkeep of office machinery, added up to a sizeable annual saving. A supermarket type basket was equipped with cleaning and preserving materials and rotated throughout the offices.

Smoky Hill Air Force Base, Salina, Kansas. Four civilian employees, Mr. George Smith, Mr. Earl Hopp, Mr. John Patterson and Mrs. Hattie Brubaker, were presented checks recently by Major H. Nichols, Chairman of the Incentive Awards Program.

U.S. Naval Supply Depot, Scotia, New York. Five employees have received ten dollars each for their participation in the BENNY SUGGS Program. Albert DiPasquale, Philomena Markwick, Constance Moore, Harold Potter and William VanDyke were recent winners.

Savanna Ordnance Depot, Illinois. Colonel Burbank, Depot Commander, recently passed out some dollars to suggestion-minded employees. Among the recipients were Boyd Lederman and Cecil E. Sasser, who split $25 for their suggested method of indentifying W-Group items. Raymond Bower, received $25 for his suggestion to simplifying locking devices of standard magazines. Several others, Archie Jackson, Lawrence Kappes and Francis Reed, were winners during the presentation ceremonies.

White Sands Proving Grounds, New Mexico. Brig. Gen. W. L. Bell, Jr., Commanding General, presented $225 in cash awards last month to ten employees of the Proving Ground for their ideas and suggestions. Mr. Thomas B. Tyson, was awarded a supplemental compensation of $50 for his suggestion of a new method of predicting Askania Theodolite film densities. He had previously received an award of $275 for this idea.

MacDill Air Force Base, Florida. Three officers and five airmen were presented management awards in a recent Base ceremony. The awards, miniture B-47 Stratojets mounted on ash trays, were made for suggestions which will save MacDill a total of 3657 man-hours and an estimated $5601 per year.

Camp Lejeune, North Carolina. A field corpsman's idea for a combat X-ray development tent became a reality for three services recently with the help of Camp Lejeune's Naval Medical Field Research Laboratory. Gene L. Hammett, HM2, a 2nd Division X-ray technician, is the young man to whom all services owe a vote of thanks for his idea.

Eielson Air Force Base, Fairbanks, Alaska. Two Eielson civilian employees received cash awards from Colonel Oscar A. Heinlein, Base Deputy Commander. Mr. Howard Bennich received a $50 check for his suggestion to utilize directional light bulbs with damaged filaments. This suggestion could save the government about $1000 per year. The second award went to Mr. John E. Haley, for his suggestion than an inspection

check list be adopted for recording and review actions of personnel performing inspection duties.

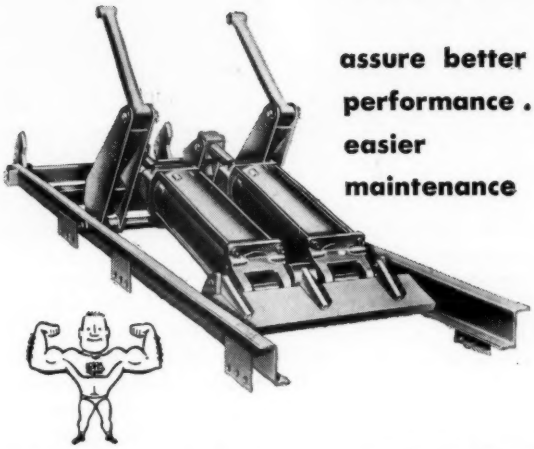
Utah General Depot, Ogden, Utah. During 1954 the Utah General Depot received 318 suggestions, 90 of which were adopted and resulted in total monetary savings of this installation of $120,-970.98.

Camp Chaffee, Arkansas. A new program of cash awards for officers and enlisted men whose suggestions promote greater efficiency and help solve problems in government operations has recently been established. The monthly awards will be $25 for the best suggestion, $15 for the second and $10 for the third. In view of the plans to pay cash for ideas submitted by members of the Armed Forces, dying on the vine, Camp Chaffee has produced a meritorious alternate.

Camp Gordon, Georgia. An annual savings of $7,404.52 will result from suggestions by three Camp Gordon military personnel awarded prizes recently by Colonel Frederick B. Alexander Jr. Receiving checks as winners were Air Force Captain R. B. Schroyer, $25; M/Sgt. Eldon Cochran, $15; and M/Sgt. Lyle Denick, $10.

Seattle Port of Embarkation. A new form devised by the Review and Analysis Division of the Seattle Port of Embarkation is proof that savings are where you look for them. The form (TCSEP-3941), which consolidates two previous forms, eliminates the necessity of preparation of one report and results in annual savings of over $662. Made up in pads of 365 sheets (one for each day of the year), the "Daily Machine Utilization Register" form is placed on each electrical accounting machine, and eliminates the former necessity of having a machine record form on each machine and a special time record card carried by each EAM employee. The new form makes for more accurate recording of machine, job and personnel utilization of time. Special permission was obtained from OCOFT to substituted SEPE job codes in lieu of those prescribed by TC Pamphlet 120-11-1.

NEW Gar Wood Strong-Arm Hoists

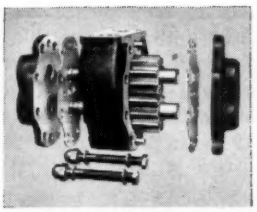


assure better performance . . . easier maintenance

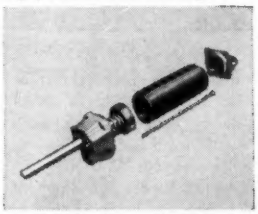
YOU GAIN three big advantages when you specify the new Gar Wood Strong-Arm hoists for military dump units. (1) You get more lifting capacity per lb. of weight. (2) You get longer hoist life because of better engineered construction. (3) You insure more trouble-free service, with easier maintenance.

Tapered cylinder heads on the new Strong-Arm hoists provide lower mounting, which naturally increases lifting leverage. In addition, 55° dump angle, plus advanced lifting point, enable the new Strong-Arms to *handle bigger loads with far less strain on body, hoist and pump.* Unit construction of rigid torque tube with tubular lift arms keeps both arms in positive alignment at all times . . . ends the old headache of arms binding and buckling under uneven loads.

You can specify Strong-Arm hoists in standard, medium or heavy-duty types — from 8 to 27½-tons capacity—with matching dump bodies tailored to your requirements. Just tell us your needs.



Improved hydraulic controls New laminated 10-tooth gear pump, with distortion-proof center-body and anti-friction bearings assures smoother operation, longer life. Balanced spool valve ends sticking and creeping. Aluminum PTO housing prevents over-heating.



Less cylinder maintenance Weldless cylinders are precision-honed . . . have 4-ring piston for positive holding, plus exclusive 3-piece tie rod construction which simplifies disassembly, makes field repair easy with standard tools.

GW-H-8

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ARMED FORCES MANAGEMENT ASSOCIATION

NEWS and ACTIVITIES

NATIONAL HEADQUARTERS

President Weldon T. Ellis, Jr., addressed the Federal Government Organization and Methods Group at a luncheon on 4 May 1955. His subject for discussion was entitled "Organization and Methods in Broad Perspective."

CHAPTER NEWS

Sourdough Chapter, Anchorage, Alaska

Major General James F. Collins, USA, Commanding General Alaska, made a most interesting talk at the April meeting on "Personnel Management." General Collins came over from Fort Richardson, and his address was enjoyed by all members. Space limitations preclude reprinting his address, but the opening remark—"Too frequently, management specialists become so enamoured with techniques, surveys, yardsticks and analyses, that they overlook people";—and his closing line—"Two of our most important management goals are to keep the troops informed and to give credit where it is due"; indicate his broad interest and thorough understanding of one of the most difficult areas of management.

NOTE TO ALL CHAPTERS

I should like to again urge each chapter to forward information on their activities to NEWS AND ACTIVITIES, Armed Forces Management Magazine, c/o M. M. Mulford, Comptroller Division, TAGO, Department of the Army, Pentagon, Washington 25, D.C. We should like each month, to be able to report the news from each Chapter, on these pages of ARMED FORCES MANAGEMENT. They need not be in finished form, but if double-spaced and including the five W's, who, what, when, where and why, we will be able to pass them along and allow each Chapter to observe the growth and activities of the entire Association.

The May meeting was interesting with Judge George M. McLaughlin, Anchorage City Magistrate, acting as moderator for a panel of top officials (See cut) from the Army, Navy, Air Forces, Civil Service Commission and other non-defense agencies in the area. The subject "Competitive Civil Service Returns to Alaska" was in a large way responsible for many questions and a fine audience of 175. The meeting was televised by the local station.

National Capitol Chapter

Mr. William A. Gill, William A. Gill Company, Management Consultants, was the guest speaker at the May meeting. His subject, "Case Studies in Survey Work," was based on surveys of his own corporation and proved very interesting. In a consultant capacity, his clients have included the Atomic Energy Commission, Department of the Army, Federal Civil Defense Administration, Hoover Commission, National Security Agency and the Office of the Secretary of Defense.

Aberdeen Proving Ground Chapter

We should like to take this opportunity to reprint the splendid set of Program Objectives adopted by this Chapter.

A. *GENERAL MEETINGS*—To be held on a quarterly basis. These meetings will be the feature attractions which will be presented for the overall membership. An outstanding speaker or panel of guests from private industry, government, or education will present an address or a discussion which is adaptable to the desires of all members of the organization. This will ordinarily be a dinner meeting.

B. *SPECIAL MEETINGS* – To be held as required. Attendance will be in accordance with the desires and interests of the membership in the specific fields which are presented. These meetings will fall in one of the following areas:

(1) *Visiting Participants* – Presentations and discussions on specific management areas utilizing personnel from industry, government, and education who are recognized as experts and leaders in the specialized area which is desired for discussion.

(2) *Panels and Conferences* – Discussions of specific APG management problems, participated in by those members who have the problem. Leadership of this type of meeting will be given to the member who has been faced with a similar type of problem.

(3) *Familiarization*—Special sessions where an attempt is made to familiarize members with the various management policies and procedures of APG. Discussion led by the Manager whose responsibilities lie in the specific area. All interested members will be invited to attend.

C. *RECOMMENDATIONS TO TOP MANAGEMENT*—From time to time, the special meetings will produce solutions to existing problems at APG through discussion on the panels and in the conferences. It is the intention of the organization to transmit these solutions to top management in the form of recommendations for improvement.

D. *MANAGEMENT INFORMATION*—Another objective of the association will be to provide a media of management information. Such media would include a library-type reading room where the management publications on the Proving Ground would be concentrated.

E. *MANAGEMENT TRAINING*—Recognizing the fact that many personnel in management positions have never had the op-

portunity to participate in formal management training programs, the association will attempt to use all available facilities in encouraging the acquirement of this formal training. Existing facilities may be augmented by training classes conducted by the members of the Association.

F. *RESEARCH*—It is intended that when a specific problem of management is studied by the group or by an individual, where new techniques and procedures are developed to arrive at a solution, encouragement should be given to the preparation and distribution of a research paper.

New York Chapter

Mr. Daniel L. Kurshan, Port of New York Authority, delivered an interesting address at the May meeting of the Chapter. With his permission, it is being reprinted in this issue of ARMED FORCES MANAGEMENT as a leading feature.

This month we should like to introduce Mr. L. W. Hoelscher. A member of the National Board of Directors of the Armed Forces Management Association since 1953, he has served as Chairman of the Publications Committee for the past two years. Mr. Hoelscher is Deputy Comptroller of the Army, and has spent most of his career in top management. He came to Government service, Bureau of the Budget, in 1940 from Public Administration in Chicago, where he served as General Field Supervisor. The Bureau of the Budget utilized his services during ten years of a very important era in the progress of management in Government. During this period he contributed highly in national and international activities, and in 1950, as Chief of the Management Improvement Branch, he left the Bureau to come to the Office of the Comptroller.

Aspects of Army Comptrollership

—by—
L. W. HOELSCHER

I AM HAPPY to have this opportunity to address the readers of the Armed Forces Management Magazine.

Perhaps it would be appropriate to discuss briefly some of the basic principles and concepts of comptrollership as it has been evolved in the Army.

In its specific character and in its practical purpose, comptrollership in the Army is somewhat broader than its counterparts in the other Military Services and in the Office, Secretary of Defense. Similarly, its scope is more inclusive than the traditional concepts of comptrollership in commercial businesses, although it is compatible with the newer concepts and practices of the more progressive elements of private enterprise. In brief, comptrollership in the Army is a general management staff function which encompasses management engineering and program review and analysis in addition to the traditional comptroller functions of budgeting, accounting, auditing and progress and statistical reporting.

Financial management is of course the most extensive area of comptrollership activity in the Army, and normally I would address myself primarily to that subject. However, in the May issue of this Magazine, Mr. Freedman covered all phases of that subject. In that article are outlined the concepts and approaches being incorporated into the financial management system of the Army. In effect, therefore, much of the main effort of the comptrollership system has already been described. Accordingly, to avoid repetition, I shall merely round out the picture of Army comptrollership by describing briefly the other general management staff functions; namely, management engineering and program review and analysis.

Management engineering is concerned with the structure and processes of management. It is thus concerned with the appraisal and improvement of the total machinery of management, of which financial management processes are a part. In its details, it also provides attention to the Management Improvement Program, work measurement, work simplification, and a host of similar programs. It provides for attention to the development of the special skills required in comptrollership, as well as to the internal organization, staffing, methods and procedures of comptrollership. Finally, it provides for the development of the skills and know-how required to analyze and improve the basic processes through which the Army carries out its missions.

Program review and analysis is also concerned with systematic appraisal in the total field of management. Its purpose is to provide commanders at all levels with information regarding such matters as: whether goals have been achieved or standards complied with; whether current goals are best suited to achievement of assigned missions; the extent of availability of resources in relation to needs; the degree of economy achieved in utilization of resources; the validity of planning factors; the identification of critical, limiting or weak elements in the program or operation; whether imbalances exist within the program; and the existence and nature of problems and problem areas, both actual and incipient.

The effect of adding these two functions, to the traditional functions of comptrollership, is to make the comptroller more broadly useful to his commander. The comptroller organization is enabled to assist in these additional ways toward the achievement of Army objectives as well as to assist in securing and managing financial resources.

These functions are consistent with the financial management function in that the comptroller's

interest in dollars is only an expression of his more basic interest—that is, in the effective utilization of resources in the process of conducting operations. These resources are the things which dollars buy. They are the manpower, supplies, equipment, contractual services and other things used, or consumed, in our day-to-day operations. Also of course, money itself must be included as a resource (or in more precise terms, obligational and expenditure authority), because money requires the same management and attention to its utilization of this authority requires attention to the physical resources that are on hand, on order and being consumed – because these are the true wealth which is poured into military operations; it is the purchase or replacement of these things that adds up to appropriations, obligations and expenditures.

Now, how does this concept affect the activities of a comptroller at an Army installation? Well, he must of course have an organization and be equipped to perform his traditional budget function, and supporting accounting and statistical function. He also reviews and appraises financial operation and controls (although the Army-wide internal audit function is centralized at the departmental level). Moreover, he must be prepared to provide appropriate management engineering functions in accord with the nature of the installation. At many stations he will, by local command decision, perform the manpower control functions. He will contribute to an installation-wide process of programming and scheduling work to be done on an annual and quarterly basis. He will periodically receive reports and analyses from operating components of the organization reflecting their accomplishments in accordance with approved programs and schedules. He will analyze, summarize and present to his commanding officer and the staff a detailed review of all operations and activities, with suitable interpretations. To facilitate this review and analysis, he will usually operate a station-wide work measurement system (called Performance Analysis in the Army). This latter system will give him invaluable data concerning the utilization of manpower and specific work accomplishment down to the lowest level of operation to be used in measuring the effectiveness of operations.

If he has successfully developed his activities under this concept, the installation comptroller will be looked to by his commander more often for advice on the best use of resources to achieve installation-wide programs and operations, than he will for ways of untying fiscal red tape. The comptroller will also be a valuable source of advice and assistance to other staff officers. He will be an effective representative of his installation before higher authority, on budget matters, because he will know in detail what is going on at the installation and the real story behind the requirement for dollars. But above all, he will have the real means to further the cause of "efficiency and economy."

USAF Is World's Biggest Business

The United States Air Force, buying more than a million separate items a year, continues to be the biggest business in the world.

By July, 1956, the Air Force will have bought more than $25 billion dollars worth of aircraft of all types and related equipment since the out-break of war in Korea in June, 1950. During the next 18 month period alone, the AF will take delivery on approximately $10 billion dollars worth of supplies and equipment.

Best example of the tremendous AF purchasing program needed to maintain U.S. air supremacy is that USAF, during a recent seven month period, made 524,864 contracts to buy $2,557,589,111 worth of items. These products ranged from tiny screws, costing a fraction of a cent apiece to giant aircraft costing several million dollars each.

CHANGE OF STATION MANAGEMENT

The new ocean-van service being utilized by the Services to move household goods of transferred personnel overseas was the subject of an article in a recent issue of THE SUNDAY TELEGRAM, Worcester, Mass.

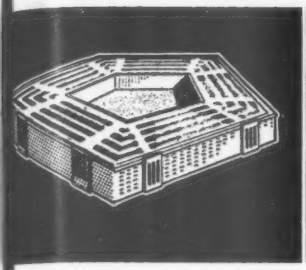
"Two Fort Devens soldiers and their families," The TELEGRAM reported, "this week will become the first Central Massachusetts residents to move overseas by 'ocean van,' a new moving system being used by the Army that eliminates the expense and trouble of crating."

The article related that the household belongings of First Sgt. Clifford F. Kyer and Capt. Harold Mosher were to be loaded into conventional moving vans of North American Van Lines, Inc., the last week in April and taken to Los Angeles for shipment to Honolulu, where both men were being transferred with their families.

At Los Angeles each cargo was to be transferred into a 20-foot "tote-van—which looks like a van trailer without wheels," and hoisted aboard ship. At Honolulu, each tote van was to be placed on a flat bed trailer and taken directly to the new residences of the men for unloading.

Recently, the big household goods moving concern, which has its general offices centrally located in Fort Wayne, Indiana, announced the establishment of an even newer, speedier moving service—Air Van. This service, of special interest to military personnel, makes possible shipment of household goods (again uncrated) overseas by cargo plane.

Costs of Air Van Service compare favorably with shipping by ocean-van and the time goods are en route is considerably shortened. Air all-risk insurance is provided and is lower in cost than insurance for overland transportation. The airlines holding contracts with North American Van Lines, Inc., arrange for overland van service from their destination fields abroad to residences. Air Van Service is available to Europe, Latin America and the West Indies.



Washington Management

Department of Defense. Announcement was made recently with the Atomic Energy Commission that an underwater explosion of a small nuclear device in the Eastern Pacific Ocean has been successfully completed by Joint Task Force SEVEN. The test involved no health hazard to mainland, island inhabitants or consumers of fish.

Department of the Army. Major General Donald P. Booth, USA, has been assigned as Assistant Chief of Staff G-1 (Personnel). General Booth, who has been Deputy Assistant Chief of Staff G-1 since December, 1954, succeeds Major General Robert N. Young. Prior to his assignment to the Pentagon last December, General Booth was Commanding General of the 9th Infantry Division, United States Army, Europe.

Department of the Navy. Rear Admiral Herbert G. Hopwood, Chief of Staff and Aide to Commander-in-Chief, Pacific Fleet, has been designated as Commander, United States First Fleet, with rank of Vice Admiral. Admiral Hopwood will relieve Vice Admiral William K. Phillips, who is retiring from active Naval service on August 1, 1955.

Department of the Air Force. President Eisenhower has nominated General Earle E. Partridge, USAF, to be Continental Air Defense Commander, succeeding General Benjamin Chidlaw, USAF, who is retiring. General Partridge has been Commander of the Far East Air Forces.

Department of Defense. All services will soon be switching over to new low-quarter shoes as present stocks are exhausted. The new footwear is expected to reduce the number of shoe sizes and with interchangeable lasts, more economical than the old styles. The standardization of footwear, climaxes several years research to improve shoe design, number of sizes and a shoe acceptable to all Services.

Department of the Navy. Navy Aircraft are scheduled for "new look" paint jobs beginning this month. Tests have shown the new color schemes have better camouflage characteristics than the dark blue now in use.

- *Combat planes* in the future will be painted glossy white on the lower wing and fuselage surfaces and light "gull" gray on the upper wing, fuselage and horizontal tail surfaces. The upper portion of the wing control surfaces also will be white.
- *Trainees* – In addition to the new "white look" for combat planes, jet trainers (other than primary) and reciprocating multi-engine trainers will be painted a split orange and white color scheme. All primary trainers will retain the present over-all orange-yellow color.
- *Helicopters* will be painted light gray.
- *Patrol aircraft,* including both land-based and seaplanes, will be painted a semi-gloss "seaplane" gray.

Planes now in service will be repainted at their next overhaul period following 1 July 1955, while production lines at aircraft plants will switch to the new colors as soon as economically practicable.

Marine Corps aircraft will also be repainted in the new colors.

Department of Defense. The first nuclear reactor will be constructed at the Naval Research Laboratory in Washington, D.C. It is expected to be completed early in 1956. A similar atomic pile is already in operation at North Carolina State College. A second is being constructed at Pennsylvania State College and a third is planned by the University of Michigan.

Department of the Navy. Rear Admiral Arleigh A. Burke has been nominated by President Eisenhower to succeed Admiral Robert B. Carney as Chief of Naval Operations. At the same time the President nominated Admiral Radford for a second two-year term as Chairman of the Joint Chiefs of Staff. Admiral Burke will assume his new post next month, and will have the rank of full admiral.

Department of the Navy. The 83rd Congress passed a law authorizing the Department of the Navy to contract with industry for the construction and operation of large, fast supertankers for 10-year charters to Military Sea Transport Service. These tankers may well replace many of the T2 tankers now in MSTS service that are government-owned.

Department of Defense. The long awaited increase in per diem rates will take effect the first of this month. The increases, which range from $1 to $4, are in addition to the boost of maximum rates (to $12) under the new pay law.

Personnel Plan Pays Dividends

A two-year personnel development program just completed by the United Services Automobile Assn. resulted in better wages, better working conditions and more efficient operation of the company during a period of rapid expansion, Col. Charles E. Cheever, USA-Ret., general manager, reported this week.

The firm writes auto and household insurance for officers and warrants of the armed services. More than 281,000 policies are in force.

The personnel modernization program was designed to keep pace with the firm's seven-fold growth in assets and five-fold growth in policies over the last seven years. The number of employees increased from 132 to 840.

A presentation of the program—submitted by Capt. E. M. Waldron, USN-Ret., and Mrs. Jean S. Moye—was used recently at a conference of top executives conducted by the American Management Assn. at Atlanta, Ga.

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FORCE CARGO PLANE

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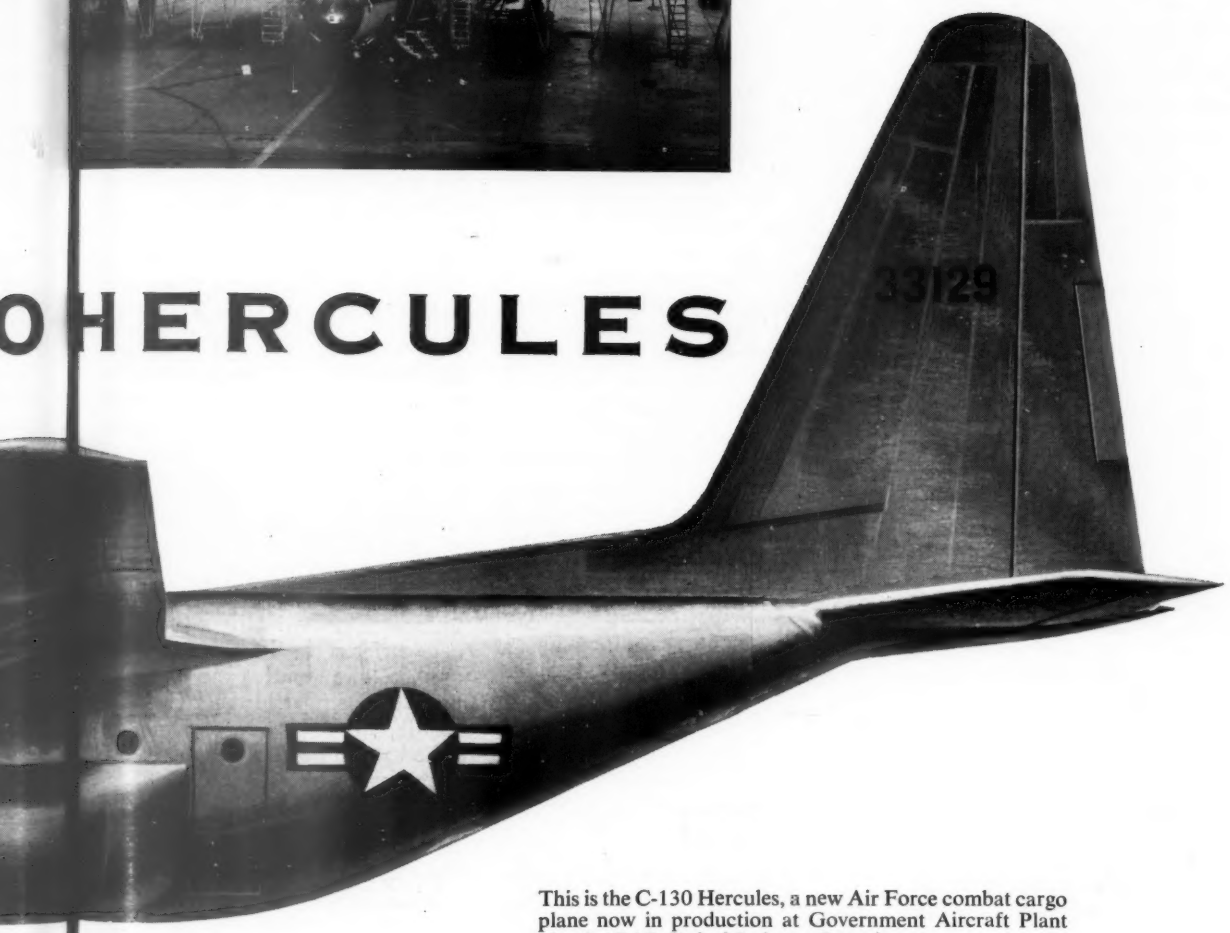

POWER OR PEACETIME AIRLIFT

LOCKHEED

IRCRAFT CORP., GEORGIA DIVISION, MARIETTA, GEORGIA

Look to Lockheed for Leadership

This is the C-130 Hercules, a new Air Force combat cargo plane now in production at Government Aircraft Plant No. 6 (GAP-6) in Marietta, Georgia.

You're going to hear a lot about this plane. The Hercules was designed to function in the new atomic era as a highly mobile, high-speed transport, able to rush men and materiel to vital areas *at less cost*.

The C-130 is the result of a new Air Force-Lockheed concept of tactical mobility. It was engineered specifically to solve problems of loading, unloading, on-board handling, airport limitations and operating costs.

The low fuselage floor, 41 inches off the ground, provides truck-bed loading, while the adjustable tail ramp also permits vehicles to drive directly aboard. And the unique landing gear, combined with the C-130's tremendous power, makes possible short takeoffs and landings even on improvised runways.

Developed for the Tactical Air Command, the Hercules will also drop paratroops and evacuate wounded from forward areas. And its amazingly low operating cost promises greater economy in future peacetime air freight.

Railroad's Role

(Continued from page 9)

Road was of some help to Baltimore, but there was need for a better method and from the competitive standpoint, Philadelphia was in third place—a poor third place at that.

The people of Baltimore decided to build a railroad and so in 1827 the Baltimore and Ohio Railroad was incorporated. In my opinion, there is ample justification for the claim that the Baltimore and Ohio was the first of the railroads in the United States for the public transport of passengers and goods. Other railroads, including the Pennsylvania, which served the City of Philadelphia, got under way not long thereafter.

Modest Start

The modest beginning of the present New York Central System was inspired by a desire to expedite traffic between the Hudson River and Schenectady, a relatively short distance, but in which the slow movement via the canal had been particularly bothersome.

Other communities found that the railroads were the answer to their problem and railroad construction, in the light of all circumstances, was relatively rapid. By 1852, the railroads were as far west as Illinois and today the rail system of this country totals some 225 thousand miles, which is approximately one-third of the world mileage. So, it is fair to say that here in the United States the nation and the railroads grew together. Territorial expansion, utilization of our vast natural resources, and development of sound and diversified industry were all impossible without the efficient mass transportation system of the railroads.

The history of railroading down to the present day has been almost wholly a search for methods and means of attaining higher productivity. In one sense it might be said that the goal of railroad management has been the adaptation of techniques that would put our service on a nation-wide mass production basis.

Looking back over the past 128 years, I believe we can see that one of the most important steps in that direction was the standardization of track gauge which made possible the interchange of cars and the operation of through routes. Before that development, rail transportation was somewhat localized and the transfer of freight from one line to another was cumbersome. By standardizing track gauge and equipment the railroads made continuity of movement simple and expeditious and thereby placed a nation-wide transportation system at the service of every shipper. In fact, the free movement of standard gauge cars extends to Canada and Mexico.

Interchangeability of equipment and unrestricted movement over multiple lines are commonplace today, but in any review of rail transportation those innovations must be noted as a major step toward greater and more efficient utilization of the railway system. And we must not lose sight of the fact either that while maintenance of through routes and interchange of equipment are now provided for by law, it was private management acting voluntarily under the incentives of our free enterprise system which conceived and engineered those developments.

Standardization of tracks and equipment seems prosaic when we consider the marvels of engineering in some other industrial fields during the past century, and as a matter of fact, the engineering history of the railroads has not been marked by the spectacular kinds of inventions and discoveries which sometimes amaze us in other fields.

Engineering Marvels

This does not mean that engineering marvels are lacking in the railroad industry. I think that anyone who contemplates the feats that were performed in crossing mountain ranges, in bridging rivers and gorges, in spanning wastelands, most of it before the days of instant communication and complete mechanization, will have deep respect for the courage and ability of railroading's early engineers. But in the field of operations the record is rather one of constant research and steady improvement, the unending quest for more efficient devices and methods by which to produce more and more units of service at less and less cost.

Perhaps nowhere can this striving for increased productivity be more clearly traced over the years than in connection with motive power.

The turn of the century saw the development of electric locomotives which gradually increased in rather limited use until a maximum ownership of about 870 units was reached in 1943. Finally, in the thirties the efficiencies of the diesel engine were applied to rail motive power; and if any development in the art of railroading in the past century may be called revolutionary, the advent of the diesel deserves that description.

A diesel-electric locomotive was first used to propel a streamlined train in 1934. The first diesel-electric freight locomotive was placed in service in 1940. Although the diesel switching locomotive was introduced somewhat earlier, its development had not advanced to the point where it began to come into general use until about the middle of the 1930's.

During this relatively short period of time, the diesel locomotive has become the dominant source of motive power for the railroad industry.

The diesel-electric, when used in combination of four units to make up a powerful locomotive in keeping with common practice in heavy

Army Officer To Head ICAF

Maj. Gen. Robert P. Hollis, who was one of the witnesses in the Senate hearing on charges of "graft and corruption" in military clothing procurement, will become commandant of the Industrial College of the Armed Forces here in July.

Gen. Hollis, 54, is commanding general of the Philadelphia quartermaster depot.

He was head of the Armed Services Textile Procurement Agency in New York for 18 months, ending in late 1953. It was during that period that most of the charges under Senate investigation are alleged to have taken place. However, military clothing inspectors were not under his control.

over-the-road service, will out-perform the best of the steam engines. It was very largely the diesel which enabled the railroads, in 1950, to increase by 50 percent the output of tons per train and to double the output of tons per train hour as compared with the year 1929—the year 1929 was the last year of high level in the economy prior to the tragic depression of the thirties.

In an entirely different field of railroading the search for efficiency and improved productivity led to changes that were nearly as important as the development of motive power, if somewhat less dramatic. As we speed along by rail, in this age of almost complete mechanization, through deep cuts and over long high fills, it is hard to comprehend the fact that when our railways first pushed west across the Alleghenies and later across the Continental Divide we were using earth-moving methods almost as old as recorded history.

It is no figure of speech to say that those early roadbeds were hand made, for our tools were picks, shovels and wheelbarrows, and the most modern labor-saving device during many of the years of great railway expansion was the horse-drawn dump cart. It would make a fascinating story in itself to trace the development of earth moving machinery and track maintenance devices down to this day of giant diesel powered bulldozers, scrapers and drag lines, of multiple tampers and mechanical ballast cleaners. It would be a story of a great contribution by engineers and manufacturers to the development of our transportation system.

We could go on almost endlessly in recounting engineering advancements of this kind. The old method of applying car brakes by hand, for example, was inefficient and unsafe, and it seriously limited the length and speed of trains.

Air Brake Developed

The air brake, first developed in 1867 and now greatly improved, solved this problem and made a great contribution to safety, efficiency and economy.

With the electric locomotive, regenerating braking was helpful on descending grades in mountainous territory. This regenerating braking is accomplished by utilizing the traction motors as electric generators while descending grades. The electric current so generated is turned back into the power transmission lines.

The automatic signaling system made possible by electric energy has provided scores of devices and techniques for improved safety, high speeds and greater utilization of tracks.

The greater efficiency of the centralized traffic control system enables a single line of railroad virtually to do the work of a double track. The contribution to higher productivity and lower cost is manifest.

When we turn to freight and passenger equipment we find the same evidence of private management's constant striving for the rewards of enterprise and efficiency. The results are significant in two aspects. From the standpoint of engineering design, freight cars have steadily increased in carrying capacity, in availability for service, and in durability. In the field of passenger equipment the twin developments of lightweight streamlining and air conditioning were perhaps the chief engineering and service advances.

Today, we have a railway system totaling about 225 thousand miles of line over which moves about 60 percent of the nation's domestic freight commerce. Viewed in relation to other agencies of transportation, the three outstanding characteristics of this rail system are its extensive coverage of the country, its ability to handle anything movable at any time for any destination, and its almost unlimited reserve capacity.

The unique ability of railroads to expand as volume carriers and as instruments of mass transportation was strikingly demonstrated during the second World War. The increase in railroad passenger traffic from 1940 to 1944 was greater than the total growth in that traffic during the entire 110 years of American railroad history from 1830 to 1940. The increase in railroad freight traffic from 1940 to 1944 was greater than the total growth in that traffic during the first 85 years of railroad service, or from 1830 to 1915.

Expressed in percentage relation to other agencies of transportation, the railroads moved a little over 62 percent of commercial intercity freight traffic in the pre-war year of 1940, while in the peak war years of 1943 and 1944 they handled over 72 percent of all freight

IT WAS A DARK AND DISMAL NIGHT

It was a dark and dismal night in Moffett Tower. Catching up on her technical education, the tower operator was reading a thorough, well-documented treatise on the precision and clarity of naval terminology.

Our WAVE smiled complacently as she read further and agreed that, compared to the length and unwieldiness of industrial talk, the Navy had built a veritable science out of clarity and brevity.

By the time she came to the concluding paragraphs, her grin had enlarged to a smug chuckle and she thought with pride of her own role in the scheme of naval technology. Then it came over the speaker, loud and . . .

"Moffett Tower, this is Navy 34114 . . . I'm from VW-1 ferrying a WV-1 to VW-2 and picking up a WV-2 to bring back to VW-1. I need V1 and V2 for the WV-1 and WV-2 to get from VW-2 to VW-1 in the WV-2."

Miss Control gasped, dropped her article and radioed: "Say again all after Navy 34114."

The pilot responded word for word.

"This is Moffett Tower; you say you are ferrying VIP's to pick up a P2V at VP-2?"

"Negative. I'm ferrying a . . ."

"Spell out all after I'm . . ."

"Roger. I spell, ABLE WILLIAM VICTOR OBOE NAN EASY TEAR OBOE VICTOR WILLIAM . . ."

"You have a transmitter squeal."

"I'm switching from this frequency anyway. I'll take my business to Barber's Point."

And with that she put down her headset to check and see what mustering-out pay was worth these days.

—*The Pointer*

and over 90 percent of the war traffic. It staggers the imagination to consider that this amounted to approximately a billion and a half tons of freight a year, or 50 percent more than the railroads had hauled in pre-war years.

Others Limited

That accomplishment reflected most of the fundamental characteristics of the rail method of transportation as it has been developed under private management in this country. All other forms of transport are limited in the territory served, or in the seasons and weathers in which they can operate, or in the nature of what they can haul, or in their ability to expand capacity readily and economically. No one of them, nor all of them together, could take the place of the railroads as the true common carrier of the nation's commerce.

The engineering developments and advances which I have only briefly noted are yielding measurable returns today. By any standard of operating efficiency, the railroads are a vital and progressive industry. During the period from 1921 to 1953 the average freight train load increased 100 percent and these larger loads were hauled farther and faster per day and per hour. In that same period, freight car miles per serviceable car day increased from 26 in 1921 to 46.5 in 1953.

The improved efficiency revealed by the performance statistics which I just cited has inured to the benefit of the public in two ways.

First, it has brought better rail service at lower cost.

In the second place, improved efficiency and higher productivity have enabled the railroads to survive the subsidized competition which they have been forced to meet in the past quarter century.

The full impact of governmental policies in fostering competitive transportation agencies would have fallen even more heavily than it has upon the public had it not been for the high level of traffic which our economy has produced in the past two decades and for the steady drive toward lower rail cost. While the railroads' share of the nation's traffic has declined relatively, the absolute volume has continued to grow with our expanding economy. The problem here does not lie in any deterioration or obsolescence in the railroad plant. There is still a vital need for the sort of mass transportation service which only the railroads can give. The problem lies at the doorstep of governmental subsidy, which we think has extended far beyond the limits of fairness and economic justification. I think, however, that we already see signs that the people are growing tired of footing the bills implicit in subsidized transportation and I confidently look for a change in governmental policy.

The manufacturing industry of the United States is universally regarded as having made outstanding technological progress in recent years, and certainly, in relation, some segments of the manufacturing industry are in a youthful vigor. Yet in the period 1939-1949, the increase in the rate of manufacturing productivity was only one-half that of the railroads. We may thus leave our brief appraisal of current performance with the observation that the railroad industry is continuing to grow with the Nation.

Look to Future

As we turn now to a look at the future, I want to re-emphasize an observation I made at the outset. Our Nation and our industries, including the railroads, reached their present position because they came into being and were able to develop under a free private enterprise economic system.

The keystone of that system is the product, whether it be goods or services, of a continuously improved quality at the lowest possible cost. The health of the system depends upon the level of productivity which business is able to attain. Whatever reduces productivity weakens the economic structure. That is true whether it be technical problems which engineering might solve, whether it be management's ineptitude or labor's inefficiency, or whether it be ill-considered governmental policies that deaden initiative and incentive. We must stimulate rather than discourage initiative and incentive. Competition under a free economic system is a great stimulant. It has been said that while competition may be the restless pillow of management, it is the motive power of progress.

No matter how great or how small the problems of tomorrow may be, we shall attain the highest level of productivity only if we have the spur of a free competitive market to drive us on. The vital spark of imagination, the indispensable will to achieve, have not survived elsewhere and would not here survive the deadening influence of state ownership, nor can they yield their best results under the stifling influence of unfair and burdensome regulation.

But if we may look forward to a healthy climate for continued improvement, I think the United States can be assured of rail transportation which will remain unequalled in the world. We have learned during the past that what the future holds in the way of technological advancement is not foreseeable or predictable. It is quite amusing today to read that in 1830 there were men who worried about the displacement of horses and their drivers by the steam engine which burned coal, and there were men who worried about the grave situation with which America would be confronted when the last pound of coal had been placed in the firebox.

Who knows what tomorrow may produce in the field of motive power? Who knows the full potential of our newest source of power, i.e., atomic energy? It may ultimately open to us sources of power so vast as to be incredible by today's standards. In the field of equipment I think we have only scratched the surface so far as reduction of friction and dead weight are concerned. Today the cost of metals which reduce dead weight imposes a limitation on their wider use, but I believe the day will come when we shall see lightweight streamlined freight trains as commonly as we now see their counterparts in the passenger field.

Tomorrow will bring a lot of improvements, and I envy the men

ARMED FORCES MANAGEMENT
advertisers support and are familiar with the needs of the Armed Forces.

who will be upon the scene 100 years from now. I am sure our accomplishments will seem puny when compared with theirs, but I hope they will think of us charitably.

Committee Meeting

(Continued from page 17)

teries of commerce. The commercial wagon train was on the roads for centuries before the pleasure driver appeared. Ancient Rome never had a motorist, but it had a 50,000-mile network of magnificent highways. One transportation expert notes: "Any contention that the private car owner has an inherent right to the exclusive use of the highways and streets, and that the commercial vehicle is an interloper, is without foundation in law, economics, history or custom."

Getting back to business management. We have stressed importance of logistics to us as well as you. Personnel is important to both of us, too.

In closing a report to stockholders this year, I wrote:

"Nineteen fifty-four was a year spent in preparation. It was a year in which our efforts were directed to insuring continuing growth in sales and earnings in the years ahead. The results already are in evidence.

"Much of the credit is due to the loyalty and support of the men and women of the Fruehauf team. The human resources of a successful corporation must be considered as the **most important single factor** in its success. We at Fruehauf believe that the company rates high in such resources. The proof is shown in our achievements and our excellent outlook."

(Sales, $152,818,738; net earnings, $4,510,238; orders being received at an all-time record rate.)

At Fruehauf our personnel department not only has the job of getting the right people in the right jobs in the beginning, but it also has supervision over all wages and administrative salaries, supervisory in-plant training, job evaluations, labor relations, safety, health and welfare. Most of these things interlock.

We try to keep our people happy, within bounds of prudent business management. Our 1954 report showed hours lost through work stoppages were only three-tenths of one percent of the 18,687,000 (M) worked in our nine plants and 75 sales and service branches in the United States and Canada.

Fruehauf operates uniquely in the labor relations field. Among the nation's major nationwide industries only we and International Harvester have individual contracts at the local level. For us that means 79 separate contracts with nine different unions.

Our branches have a great degree of autonomy. Contracts are written to fit locations, customs and conditions, with the branch managers and the people with whom they work helping to hammer them out.

Personnel Director John C. (Jack) Young has a four-man labor relations team under John Garner. We try to keep them happy, too. We fly them back to Detroit for the weekends with their families and Monday conferences at headquarters before they go winging back out for a schedule that requires a contract and a half to be negotiated every week of the year.

As I previously said, I think our system of management is a good one. Apparently the American Institute of Management does too. In 1954 for the fifth consecutive year the Fruehauf Trailer Company received this "certificate of management excellence" from AIM:

"In Recognition of Distinguished Accomplishment in the Ten Catagories of Our Management Audit."

Financial World conferred upon our company its "Merit Award" for "distinguished achievement in annual reporting for 10 consecutive years and in recognition of the excellence of the 1953 annual report to stockholders". (At the time this was written, 1954 awards had not been announced.)

In the private enterprise system as in the Armed Forces a lot of advanced planning and new and better weapons (or products) are required. Without them, the price we would pay would be mighty high—for us and our stockholders.

Through advance planning and its attendant engineering and tooling we have been able to bring to the trucking industry the revolutionary so-called Volume Van five years ahead of the normally expected date. Research, as in any new product or weapon, played a major part.

Our Fruehauf team made its decision. It proved a good one. Finally we converted five plants to Volume Van production, but still fell behind orders for this new high-cube trailer that permits a gain of up to 35 percent in payload over competitors and older types.

Fruehauf trailers and truck bodies continuously have been getting lighter, but stronger; larger, but more versatile and faster, but safer. But we're going right on researching and planning and building. The ultimate is a long way off. So is the end of the truck trailer industry.

In 1939 there were 4,500,000 (M) commercial hauling units in the United States, with 136,000 (T) truck-trailers, or three percent of the total. In 1952 there were 9,900,000 (M) units, with 553,000 of them truck-trailers, or five and four-tenths.

And Professor Marvin J. Barloon, of Western Reserve University, has completed a study which indicates there will be 606,000 truck-trailers on the roads next year; 1,086,000 (M) by 1961, and 1,850,000 (M) by 1970.

The Fruehauf team expects to build 40 to 45 to 50 or an even larger percentage of them, working in at the same time the special needs of the Armed Forces for such as portable guided missile launching ramps, mobile radar stations and the like—teaming with your teams of specialists, just as we did in World Wars I and II.

Guy Antrim, Jr., Heads New Arma Office

C. W. Perelle, president American Bosch Arma Corporation, announced here today that his company has opened a new field office in the Realty Building, 132 N. Main, Dayton 2, Ohio. This is to facilitate liaison with Wright-Patterson Air Force Base with regard to Air Force systems being designed, developed and manufactured for AMC and WADC by the company's Arma Division.

Transportation Corps

(Continued from page 5)

In general, and unless otherwise dictated by tactical operations, commercial carriers are used to transport military shipments over land and inland waterway routes. This in effect then means that the Chief of Transportation pays the bills for services rendered. What is to be shipped, when it is to be shipped and where, are programmed for shipment by his "customers," who in this case are comprised of the other branches and services of the Military Establishment and other agencies of the Government.

Likewise, the Chief of Transportation has no control of the management or operations of the facilities by which the shipments move. However, in performing his mission, he must apply the most effective over-all techniques to the management of traffic and transportation services in obtaining the least costly rates and charges in order that shipments are in fact moved at the most economical as well as by the most advantageous means otherwise to the Government.

By the charter under which the Chief of Transportation carries out his responsibilities, he not only "provides and procures transportation services for the Army," but he also provides "technical and administrative advice and recommendations on matters relative to transportation."

Because of this, he is often referred to as the "Traffic Manager of the Army." As such, he is concerned with the utilization of the various modes of transport for the movement of persons and things, as required, with the geratest possible economy of means and resources.

For example, the movement of supplies from an inland point in the United States to an inland point in Europe is not just a matter of drawing up a bill of lading and loading a freight car. The act of routing that shipment is a highly complex one. Not only must inland transportation costs in the United States be considered, but also the various ports of embarkation which might be used. Steamship costs and schedules vary, naturally, according to ports of origin and ports of destination. Finally, inland transportation costs on the far shore differ according to the distances and routes between the destination of the shipment and the various ports of arrival.

Officers and enlisted men of U.S. Army, Europe, contributed $320,310.03 to the 1955 March of Dimes campaign.

The problem of the traffic manager in this case is to ship supplies from inland origin in the United States to inland destination overseas so that the lowest landed cost in resources may be achieved in the movement. Further, to complicate the process, deadlines are frequently involved, necessitating more rapid, and therefore more expensive modes of transport. Or, the character of the cargo might be such as to require peculiar and particular handling, many times denying the utilization of certain ports or certain inland routes. To cite other examples, a movement may involve a handful of military and civilian personnel, or it may constitute the movement of an entire division with all its impedimenta and equipment.

On the one hand it may require the movement of a huge atomic cannon and the engineering problems of clearances, and capacity of transportation equipment to haul it.

On the other hand it may involve nuts and bolts, perishable produce, or emergency medical supplies. The gamut of requirements staggers the imagination. But if something or someone is to be moved, it is the job of the Transportation Corps to see to it that it is moved expeditiously, efficiently and at the lowest possible cost.

Decentralized Basis

The Transportation Corps is organized to perform the mission assigned to it on a decentralized basis. Top policy, planning and guidance is given by the Departmental Staff. Succeeding paragraphs will indicate what the Corps must do and how it is organized for the management of transportation mission.

Traffic management is exercised under the guidance of the Departmental Staff through a decentralized structure consisting of four Transportation Zone Offices, a Port Traffic Agency and the Ports of Embarkation. In addition, transportation offices exist at all ports, camps and stations throughout the United States.

Each major commander within the Continental Army Command has a transportation officer on his staff to furnish traffic management advice.

The Departmental Staff is constantly studying and surveying ways and means to improve traffic management and reduce the costs of transportation. For example, within the past year a traffic management survey of the Technical Services has been completed by the Deputy Chief of Staff Logistics. As a result, traffic consultants have been placed on the staffs of other Technical services to give advice and guidance in reducing transportation costs for supplies and equipment.

Traffic management has been extended to the field of procurement, a substantial proportion of the total cost for an item procured is the cost for transportation from the manufacturer's plant to its required destination in the Army supply system. When bids for procurement contracts are made, they now include a determination of the transportation costs involved so that the items to be procured are moved at the lowest possible cost to the Government.

To illustrate some of the methods by which our traffic management experts improve the efficiency and economy of our operations, a few more accomplishments may be cited. After making a thorough study of Army freight traffic, a number of conclusions resulted which led to negotiations with commercial carriers on freight rates, rules, regulations and agreements.

As a result of these negotiations, the Chief of Transportation realized in Fiscal Year 1954 a savings of some six million dollars. In another instance, negotiations were made with commercial carriers for the purpose of reaching certain agreements through which the Army would be permitted to store freight in transit. The savings in

this instance amounted to about ten million dollars annually.

Ways and means of reducing passenger travel costs are constantly being sought. Agreements have been consummated with commerical carriers for a ten percent discount on rail and air passenger transportation, and a five percent discount on bus transportation. Savings to the Government as a result of those agreements will amount to some fourteen million dollars annually.

The same basic objectives and functions of traffic management are exercised in overseas areas as well. All overseas commanders have Transportation Sections in their organization. Traffic management is in fact a reality from the frozen tundra of Greenland and Iceland, to the hot sands of the Arabian desert, in Europe, in Asia, in Africa.

The vast bulk of Army movement in the United States is accomplished by the civilian transportation industries—the railroads, the motor carriers, commercial air and privately owned shipping; therefore, the economic stability and progress of civilian transportation industry is of vital concern to the Department of Defense. Keeping alive the commercial competitive incentive, essential to a sound economy, is a basic consideration in managing traffic for the Army.

Being Prepared

Another basic aspect of traffic management is the necessity of being prepared to move persons and things under emergency and wartime conditions. To accomplish this aspect of management, four Transportation Corps organizations play a major role.

First, the Office of Planning and Intelligence which is charged with the functions of planning for transportation in national defense, both in the overseas areas and in the United States. Second, the Joint Land Transportation Agency which consists of Army, Air Force and Navy traffic managers. Its function is to jointly assure efficient utilization by the military of available transportation capacity in the United States during transportation emergencies to accomplish the land movement requirements of the Department of Defense.

Third, the Transportation Research and Development Command which is discussed further on in this article. Fourth, the Transportation Supply and Maintenance Command. All of these elements work closely with and seek the advice of the civilian transportation industry and leading universities of the nation. For example, the National Defense Transportation Association, a volunteer organization of civilian and military transportation personnel, materially assists in the emergency and wartime planning of the Corps.

The Transportation Corps also has established a Research and Development Command responsible for the development of transportation equipment, and methods for use of such equipment so that the means of transportation will meet the requirements of dispersal and mobility in all climates under varying terrain conditions.

The scope of its job varies from time and motion studies of unloading cargo and troops on a beachhead and the development of standard transportation products so that the efficiency of assembly line methods may be applied to cargo and personnel, to the invention of rail, marine, automotive and air end items, secondary items, and spare parts capable of providing means of transportation in the steaming tropics, the frozen wastes, and the blistering deserts.

The Research and Development Command works closely with the Air Force; for example, the development of the Aerial Port; the Navy, for example, ship to shore requirements; and the civilian transportation industry, for example, the DeLong Dock and the Aerial Tramway.

In regard to Transportation Logistical Support, the basic concept of decentralized management of the Corps, applied to traffic management has also been applied to

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the materiel or supply aspects of the transportation mission. The Transportation Supply and Maintenance Command has just been established. All functions, except top policy matters, pertaining to Army rail, marine, aircraft and highway materiel-requirements, procurement planning, maintenance, standardization, supply and resupply, are assigned to this Command. Transportation depots, maintenance shops and storage activities were placed under its jurisdiction.

This constitutes the supply side of the Transportation Corps' overall transportation management responsibility. It is the function of this organization to plan for and procure transportation items for the Department of the Army as well as the Navy and Air Force in those areas where single service purchase assignment has been made by the Secretary of Defense.

It is charged with supplying rail, marine and air items, both end-items and necessary spare parts support to all services, overseas commands and other agencies as required. It is its responsibility to secure and maintain the transportation equipment required for current operations, emergencies and in the event of war. In accomplishing the assigned responsibilities, many facets of supply management must be tapped.

A few of these are: first, standardization of transportation equipment. Obviously, through standardization, costs are reduced, re-supply and maintenance are simplified, maximum utilization under diversified requirements can be achieved. Second, Industrial Mobilization Planning which will assure the availability of critical materials and factories to produce transportation equipment requirements in the event of war. Third, the development of maintenance requirements for transportation equipment world-wide under all types of conditions—this involves management of spare parts requirements, the "how" of maintenance and related aspects; for example, the management of General Transport Administrative Vehicles for the Department of the Army.

The Transportation Corps conducts an active training program for officers, enlisted men and selected civilians in transportation management and techniques. Emphasis is placed not only on the technical, logistical and traffic management aspects in training, but also on the role of each individual in the general management of the Corps.

Each student receives a detailed orientation on the tools of general management which he must apply as a manager in the Transportation Corps. It is essential that all key personnel of the Corps, military and civilian, relate their responsibilities as managers to men, money and materials. To this end, constant indoctrination and training is required Corps-wide.

Major Responsibility

As one of its major responsibilities, the Transportation Corps has technical supervision of the world-wide fleet of Army administrative vehicles. These are the general purpose vehicles which provide installations with local transportation. The fleet, most of which is grouped in motor pools, totals approximately 50,000 vehicles. Since the Transportation Corps initiated a management program for motor pools in 1952, certain significant advancements have been made.

In the Continental United States we have been successful in reducing the fleet by approximately 5,500 vehicles, a reduction of about 13 percent. New standards of maintenance and improved dispatch controls have been adopted. As a result our annual budget for world-wide operations has thus been reduced approximately 12 million dollars.

A great many persons tend to depreciate the importance of technical motor fleet supervision. This attitude undoubtedly stems from the fact that our nation almost universally consists of car owners and drivers, each, in his own mind, a pretty competent operator. The operation of a large fleet comprising specialized and heavy types of equipment is, however, a technical field requiring a high degree of skill for ultimate efficiency. In commercial trucking operations, taxi fleet businesses, and similar highly competitive privately-owned activities, maintenance supervisors, operating managers, equipment designers, tire specialists, and drivers are all required to possess a degree of technical proficiency unknown a few years ago.

The Transportation Corps has similarly adopted lessons gained in both the commercial and the military field, with the result that Army motor pool operations are becoming more and more efficient and economical. New methods of operations have been introduced and maintenance shops have been improved, through new procedures and the installation of modern testing equipment. Such devices as electronic engine performance test mechanisms are now common in motor shops throughout the Army.

Short Supply

With respect to military motor vehicle operations in the field, it is a fact that both tactical and

GUIDED MISSILE: RECONNAISSANCE USES, AND PERFORMANCE OF FIREBEE DISCLOSED BY RYAN

First official disclosure that the 600-plus m.p.h. Ryan Firebee jet target drone also has potential tactical applications and could be used as a guided missile or for reconnaissance was made recently by Ryan Aeronautical Company, with Department of Defense approval. At the same time detailed performance characteristics of the swept-wing pilotless plane were released.

Designed originally as a high-speed target to provide the military services with a jet-fast "flying bull's-eye" which can realistically simulate attacking enemy aircraft, the Firebee has a maximum speed of 610 miles an hour at sea level, or 605 miles an hour at 40,000 feet. It is designed to fly under remote control from the ground, after air launching from a "mother" plane, for 1 hour and 20 minutes at 575 miles an hour and an altitude of 40,000 feet. Its service ceiling is approximately eight miles up—42,500 feet. Its rate of climb at sea level is a spectacular 8500 feet per minute.

administrative vehicles are ever in short supply. It thus becomes necessary to pool transportation—both trucks and transport helicopters. It has been demonstrated conclusively in extensive field tests, and in combat as well, that material reductions in the number of vehicles in the Infantry division can be achieved without any loss of efficiency. A central transportation control agency organized and trained to respond quickly and effectively to any and all demands, effectively dispatches the proper transportation to the requiring elements and assures maximum use of the available equipment.

Transportation Corps truck units are designed to do many diverse transportation jobs for the Army in the field. Truck companies are equipped with 2½ ton cargo trucks and 1½ ton trailers to deliver food and ammunition direct to fighting troops. Medium truck companies all have standard truck-tractors but may be equipped with any of a number of types of semitrailers, reefers, tankers, vans, stake and platform, etc. They are used to deliver supplies over long distances, from the ports and depots of the rear, up to the Army supply area.

Heavy truck companies perform a specialized job of transporting tanks and armor and other large items needed in the field. A great deal of emphasis is being given to expanding the capabilities of motor transport in order that it can deliver even greater loads wherever it may be called upon to operate—in deserts, in the arctic, over marshes, and across beaches.

As a corollary of the principles governing our military motor operations, we are obtaining an increasing amount of local transportation service from civilian sources. Our Army line-haul business has been handled almost entirely by commercial firms for many years. The program to utilize taxicabs, streetcars, bus lines and subways for local service is relatively new. While it has been found that commercial service is cheaper in certain cases, expanded use of civilian transportation, particularly in metropolitan areas, will, in time, reduce further our requirements for military vehicles for administrative purposes.

Great advances have been made in Army aviation through the development of helicopters. However, efforts are continuing to effect further improvements of the transport helicopter so as to more effectively supplement other forms of transportation in the combat zone.

This means the development of a helicopter which will carry an acceptable payload at economical rates, and which can be maintained easily. The helicopter is not regarded as just another means of air transportation. It is more than that. It is already the greatest competitor of busses, trucks and the rail lines in the forward areas of a combat zone. So, in the development of a transport helicopter, the broad capabilities it offers must be fully envisioned, and its characteristics must be designed to fully exploit those attributes.

The use of modern management techniques is essential throughout the Transportation Corps in order to bring together all of the elements of the complex and specialized operations which comprise the over-all responsibility for the movement of persons and things.

However, good management, per se, is not the responsibility of any one particular agency or organizational element. The Comptroller of the Transportation Corps assures that modern business-like practices are employed throughout the Corps. He supervises the budgeting, accounting, manpower and resources controls otherwise, reports, statistics, review and analysis of programs and schedules and management engineering functions at all levels. The Transportation Corps, under the active supervision of its Comptroller has made marked strides in implementing the Financial Management Plan of the Army, particularly in the field of integrated accounting, industrial and other revolving funds, and financial control of inventories; all of which provide the commanders of installations and activities with management tools they have not had, heretofore.

The Chief of Transportation also includes on his staff traffic managers and engineers, mechanical engineers and designers, aviation engineers, specialists in freight and cargo handling, as well as others, all with one common purpose—that of finding a better and less expensive way of doing the job of obtaining more miles per transportation dollar.

JULY ANNIVERSARIES

ARMY MEDICAL CORPS	27 July	1775
JUDGE ADVOCATE GENERALS DEPARTMENT	29 July	1775
ARMY TRANSPORTATION CORPS	31 July	1942
AIR TRAINING COMMAND	7 July	1943
AIR MATERIEL COMMAND	17 July	1944

Administration vs.

(Continued from page 11)

vocabularies that only the practitioners of the particular art understand. Of course, it is not unknown for administrators to develop their own peculiar jargon!

5. Still another friction point is the tendency of the management engineer to take credit for a particular recommendation. In so doing, he antagonizes the administrator who carries out the recommendation. All management engineers "know" that a good staff man never takes credit. This is what the books say. Nevertheless there is a real psychological and logical need for the management engineer to justify his own existence to his boss. We all know that if we really have hopes for the administrator to accept our recommendations as management engineers, we must see to it that the administrator has at least made a contribution to any new plan. And the highest form of acceptance is when the administrator makes our ideas his own. This is proof of success and should provide us with ample satisfactions. It may raise some delicate problems of reporting on the part of the management engineer in accounting for his time and effort, but that is why we have reporting systems; and that is why we have, we hope, sophisticated top management which set up the management engineering unit in the first place.

6. Inherent in the short-term versus long-range point of view is the conflict that arises by virtue of the fact that the management engineer

comes in, makes his study, prepares recommendations and then moves out leaving the administrator alone to carry out the recommendations. The administrator is thus left with the very delicate problems of how to carry out the management engineer's recommendations in terms of the personalities and the immediate necessities of the job. Theoretical advantages in the management engineer's recommendations are of no help to him in selling his staff on the need for a reduced complement, shall we say, in the performance of a particular job.

7. Related to this friction point is still another irritation, namely, the situation where the management engineer leaves the administrator with a detailed set of plans or procedures. The administrator feels that this tends to limit the area of his discretion, and his ability to meet problems with flexibility as they arise. The management engineer may go on the assumption that if the operating officials are incompetent, then detailed procedures, to be followed by rote, will keep them from making too many mistakes. The operating official, on the other hand, looking at it from the point of view that he is a successful, efficient and good administrator, feels that free of the restrictive procedures specified by the management engineer, he will be able to make the right decision in a greater number of cases than if he is held to a set procedure for all cases. To carry this situation to an extreme, one might claim that management engineers would be wholly successful if they could reduce the administrator's job 100% to writing, so that the administrator would become a robot and perform according to a predetermined course of action, based upon specified instructions covering every possibility that might ever arise. I suppose that would be the ultimate in this age of automation! Somehow top management has to decide on the level of competency of its officialdom.

8. One final source of friction: conflicts based upon personality types. While I think it is exceedingly dangerous to generalize, nevertheless I think many of us would agree that there is a tendency for staff agencies and particularly management engineering service agencies to attract a distinctive type of personnel characterized perhaps by college graduate training, often a younger age group, a strong theoretical background, limited practical experience, and in general, a white collar type of orientation—versus what is sometimes the shirtsleeve approach of the operation side of the shop. If there is this antithesis in any particular organization, this in turn will tend to result in conflict.

● North American Aviation, Inc., is developing the SM-64 Navaho long-range, surface-to-surface guided missile, the U.S. Air Force disclosed today. Details of the missile and its performance were not revealed.

Work on the SM-64 Navaho has been underway for sometime in North American's Missile and Control Equipment operations (MACE) at Downey, California. Started in 1945, North American's MACE operations are engaged in all major phases of missile airframe design, rocket engine propulsion, automatic guidance and control equipment. The technical force engaged in these operations is being expanded greatly.

Some Practical Approaches

I've tried to identify numerous areas of friction that give rise to conflict between administrators on the one hand and management engineers and other staff agencies on the other, and have indicated in the process how those conflicts might be ameliorated. There are a few overall observations that I'd like to make:

To begin with I'd like to observe that I think a certain amount of conflict may be desirable. Any agency will stagnate if everyone always agrees with everyone else. Having a rival point of view on a particular problem, is essentially good for a virile organization. It tends to focus and crystalize issues and move them up for disposition by top management when there is an essential policy conflict. I think this is the way it should be.

One point of possible resolution of the undesirable aspects of the conflict would be to decide what in the way of management engineering the line can do for itself. For example, some form of work simplification. Agencies of the federal government have had very successful experience in this direction, wherein management engineers act essentially as trainers of the administrator's supervisors, so that the administration itself performs the necessary operations, particularly in non-complex analytical areas. Indeed, one government methods man has stated: "My job isn't to tell the operator *how* to do his job, but rather to produce the mechanisms that will help the operator best bring *his* judgment and knowledge into play."

Another approach toward the solution of the problem is to make pre-planned shifts of personnel between management engineering and administration. In this way the management engineer can learn and really feel the problems of the administrator, and conversely. Sometimes, however, this can be a two edged sword. Thus, the experienced administrator may be so used to an operating job requiring drive and forcefulness that when he's placed in a staff job he tends to give orders, and to be impatient for results, forgetting the cardinal principle of all staff work, including management engineering, that he is there to advise and assist and not to command.

A final comment on a possible basis for easing the strife between the administrator and the management engineer lies in the direction of who works for whom, who reports to whom. In other words, let's re-evaluate why we place management engineering units outside the immediate direction of the administrator, if we do. If we decide that this must be done for control purposes, (and I myself am somewhat skeptical about the validity of such an absolute finding) then how about eliminating written reports on the results or findings of the management engineering survey? Again, if we must have a report, let's report through the department affected, giving that department an opportunity to comment—or better still, how about reporting the results of our survey to the administrator, with just a summary of the report, or perhaps merely a forwarding of any disputed items in the report to top management for resolution?

As an important corollary, the management engineer has an obligation to define rather precisely the problem that he is proposing to undertake, and to outline in detail his method and timetable, and to secure concurrence from the administrator. If he keeps the administrator posted all the time, and gets agreement step by step, there will be no cold shock on a sudden impact of the job's completion.

As with any organization problem, the end result will be no better than the success of the human relationships involved. If our management engineers or our administrators, or both, are demons in the practicing art of human relationships they will overcome any organizational defects, and conversely, no well-planned organizational structure will be a substitute for deficiences in human relations between the management engineers and the administrators.

EDITOR'S NOTE.

We should like to thank the New York Chapter of the Armed Forces Management Association for arranging Mr. Kurshan's article.

NEW INCENTIVE AWARDS PLAN

The 83rd Congress has reaffirmed the confidence which the Government has in the ability of Civil Service personnel to help in solving the problems of management and its recognition that employees at all levels share in the responsibility for efficient and economical operations. The new Incentive Awards law increases to $300.00 the amount which may be awarded locally for ideas or superior accomplishments which result in savings. Superior accomplishment, over and above the requirements of the job, sustained for at least six months, where no tangible benefits can be measured, may be awarded by payment of $100 if the annual salary is $3500 or less or $200 if the annual salary is from $3501 to $7000. Only one of these awards may be given in a twelve-month period. All employees may compete for any of these awards.

Every supervisor is expected to examine and observe accomplishment of those under him and make recommendations where awards are deserved.

Improving Medical

(Continued from page 7)

play-back, or to make corrections. Length of dictation and corrections are indicated automatically on an index slip on the instrument into which the dictation is directed.

Thus we see this system is designed to fulfill the objectives specified in the management research project outline, namely:

a) Maximum utilization of professional personnel—accomplished under the system because doctors have easy access to uncomplicated dictation devices; time is not lost through preparation of longhand reports, the seeking out of medical secretaries or through the setting into operation complicated mechanical dictation devices.

b) Increased efficiency in the use of clerical personnel—accomplished through pooling secretaries in a system of controllable workloads. Futhermore, various secretaries can become specialists in particular kinds of medical dictation.

c) Production of high quality medical records — accomplished through safeguards in the system whereby doctors can play back, make corrections, and, of course, check final copy. Furthermore, because of the accessibility of the dictating stations and the guarantee that new records always are always on the machines, doctors can dictate complete, detailed reports as soon as they complete a consultation or other procedure.

d) Elimination of delays—accomplished through immediate dictation and the pool system of secretaries.

After testing of the Edison Televoice System at Walter Reed for 12 months, the program was evaluated and reviewed.

It was found that, during the test period in the Outpatient Service, there was an increase of approximately 5 million words in production of medical records. It should be pointed out, however, this testing phase occurred during a time when the Outpatient Service was being expanded and consequently more patients were treated. This increase in patient load directly affected the volume of medical records; it could not have been handled as efficiently as it was, had it not been for the release of the physicians' time through Televoice record production.

Actual savings during the 12-month testing stage were $4,551, resulting from a per record cost decrease of $.24 for consultation reports (although the words per record increased 80 percent), and a per-record cost decrease of $.06 for histories and physicals (although records during the period more than doubled in words per record).

This saving of more than $4,000 compares most favorably with the initial installation cost of $12,500 for the Televoice System in the Outpatient Department. It is more impressive considering the equipment has a minimum life of ten years, and complete maintenance—on a service contract basis—would cost but approximately 5 percent of the initial cost per year.

If the 5 million words-per-year increase had been produced under the previous methods in use, the

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NORTHROP REALIZING COST REDUCTIONS FROM PALMDALE JET TEST BASE OPERATIONS

Increased operational efficiency at Northrop Aircraft, Inc., brought about by a gradual expansion of activity at its one-year-old Palmdale, California, flight test base, will result in estimated savings of more than $2,000,000 on F-89D contracts during 1955, Kenneth P. Bowen, Northrop vice president of manufacturing, announced today.

Mr. Bowen said better weather, with fewer flying delays, and enlarged facilities resulting in reduced manufacturing time in getting aircraft from the production line to the delivery stage are the principal reasons for Palmdale's contribution to Northrop's continuing cost reduction program.

cost would have been $29,000 more than the cost of production of this added load using the Televoice System.

In the evaluation, a committee of five senior medical officers made a comparative survey of the medical records produced by the Televoice System, and declared them superior to the former longhand records. The percentage of typewritten records increased five times since installation of the system.

The simplicity of the System caused physicians to use it in preference to other methods, it was found. (The total time spent by the physician in dictation is only one-fourth of the time required to write the words in longhand.)

The evaluation also showed medical records were produced much faster by the Televoice system; and those records with a critical time factor, which formerly could be produced quickly enough only by longhand, were now produced in time through the remote control system.

Moreover, the evaluation report stated the equipment had proved itself, mechanically and electronically, to be durable, dependable, simple to operate, flexible in handling workload variations, and virtually mistake-proof.

Insofar as the word increase noted during the testing period, the evaluators concluded that more essential details are remembered and recorded—resulting in more thorough and accurate records—when doctors were able to immediately record their observations, rather than postponing their writing to a later time.

Gertrude L. Gunn, R.R.L., Director, School for Medical Record Librarians, University of Indiana, has made this observation (in reference to previous tests of remote control dictation systems, and possible tendencies to verboseness):

"We have not found this (centralized dictating causing verboseness) to be true. I do feel a more detailed medical report has been written rather than a verbose one. When the installation was new, we found the doctor dictating more than before for two reasons: a) The novelty of the set-up and b) The lack of organizing their thoughts before starting to dictate. After this phase passed we noted the doctors were dictating complete and concise medical reports. Verboseness is characteristic of the individual and not a trait encouraged by this particular system of dictation."

As a result of the evaluation, the Surgeon General's Office recommended that remote control dictation equipment should be installed in all new permanent-type hospitals. Subsequently, criteria were drawn up of the operational and physical characteristics considered necessary to meet the requirements of the Surgeon General. These criteria were accepted by the Signal Corps of the Army and disseminated to all Army Signal officers for inclusion in the specifications of any project for remote control dictation.

Specifications call for dictation stations with desk or wall-type dictating instruments, as well as special dictating equipment (chest microphones, etc.) for use in autopsy rooms, laboratories, and other areas where the dictator should have both hands free.

Continuous, 24-hour operation must be possible through the remote control dictation system, and the system must contain an end zone feature which will alert the typing pool when a receiver is hung up near the end of the record then in use, thus guaranteeing the record will be changed before the next doctor begins to dictate.

Similarly, the system must have a warning signal which will alert the lengthy dictator when he has dictated nearly all the length of a record.

Under no circumstances can it be possible for the dictator to record over previous recordings, or be able to dictate when no record is in the machine.

Following the successful test of the Edison Televoice System at the Outpatient Service, and the resultant approval of the project by The Surgeon General, the system was installed throughout the hospital. This includes stations in the Medical, Surgical, Neuro-psychiatric and Specialized Services—X-ray clinic, laboratory, operating suite, and pathology. These stations are serviced by four medical record production units (typing pools).

The same system has been installed at the Brooke Army Medical Center, the Valley Forge Army Hospital, and the U.S. Army Hospital, Fort Belvoir. Projects for Remote Control Dictation have been approved for the hospital at the U.S. Military Academy, West Point, at Letterman and Madigan Army Hospitals, and at the hospitals at Fort Jackson, Fort Sill, Fort Campbell, Fort McClellan, Fort Knox, Fort Monmouth, Fort Riley, Fort Benning, Fort Bragg and Fort Lawton, and several smaller installations. Construction plans for all new Army hospitals call for inclusion of remote control dictation systems, which are as easy to install as a telephone system.

In present installations of the system, considerable cost savings have resulted in the production of medical records. Moreover – the doctors now find the once-tedious task of producing medical records as simple as telephoning home to report a possible late arrival for dinner.

The Army Motion Picture Service was established in June 1920.

Book Reviews

by D. D. Corrigan

Bon Voyage

"FIELDING'S TRAVEL GUIDE TO EUROPE," 1955-56 Edition, by Temple Fielding (William Sloane Associates, Inc., 749 pages, $4.95).

As handy as a knapsack, as necessary as corn pads, and as rewarding as a camera, is "Fielding's Travel Guide to Europe," for the European Bound traveler. For eight years this book has been the best selling guide to Europe, and now the revised edition gives up-to-the-minute material on 22 European countries, the British Isles, and Egypt.

A complex index serves as a ready reference on everything from Albania—"a beautiful little country, primitive, unspoiled, breathtaking in the ruggedness of its mountains and the simplicity of its people. But for reasons of their own, neither Mr. Hoxha nor Mr. Malenkov is welcoming American tourists to Tirana," to the finest trip in the Netherlands, the Zuider Zee—"a gigantic stretch of salt lakes that indent the center of Holland's coastline all the way down to Amsterdam; now blocked off from the sea by an 18½-mile dam, hundreds of thousands of acres of valuable land have been recovered from it."

The purpose of this book is best expressed in Mr. Fielding's own words. "How to find a room without purple - zinnia - and - livorwort wallpaper, a restaurant without cockroaches, or a shop without sharpies. My book attempted to assemble candid, practical answers to the everyday problems of touring—and living!—which face every American who crosses the Atlantic."

An efficient and practical men's or women's wardrobe is planned right down to a travel-sized spot remover and 3 or 4 rolls of Tums. Tips are given on where to sit on an airplane, or how to keep one's stomach on an even keel over the ocean. Explanations are detailed on foreign currency regulations, along with the metric system and how to change Fahrenheit temperature into Centigrade.

Each country and its main cities is described. In Germany, for example, one will find luxurious hotels excellent food, and good transportation. There are no shortages if the product is sold anywhere in Europe. Foreign troops and official personnel still use dollar script or British script in their Post Exchanges. Black markets are small and scattered. English is spoken by almost everyone except in rural communities. Decent hotel accommodation, single with bath, runs about $3.50 to $4.50. First class restaurants charge about $1.50 to $3.00 for a meal without beverage or wine. The local Ratskeller (council cellar) is always a good bet if in doubt. Night clubs can be found in almost every large city, and a quick run down is even given of the three types of bar girls. Taxis, trains, busses, cars, and airline services are outlined. Laundry, wine, sports, things to see, tipping, things to buy, things not to buy, local rackets are all explained in their proper category.

For advance planning and on-the-spot reference, Fielding's book will serve as a good guide to those crossing the Atlantic on business, pleasure, or on a tour of duty with the Armed Forces.

Record Book

"PERSONAL AFFAIRS RECORD BOOK," The Military Service Publishing Co., $1.00.

Here is a record book designed for members of the Army and Air Force, but one that could be utilized by anyone in the Armed Forces. The book is small, pocket sized, with blank spaces for essential material.

Included are places for important and family statistics, addresses, listings of location of documents, civilian background, service record, promotion dates, military schools attended, leave records, medical history, pay and allotments, qualification of individual, tax information, property summary, insurance data, V.A. and social security data, and will information. Reference information is listed such as pay tables, travel weight allowances, and important Army and Air Force phone numbers.

This book will give assurance that all important records are being kept for easy reference, makes it easy to keep records up to date, and serves the wife of a member of the Armed Forces with valuable information when overseas or to claim survivor's benefits.

Manual of Arms

"SMALL ARMS OF THE WORLD," by W. H. B. Smith (The Military Service Publishing Co., 768 pages, $10.00).

Material was incorporated from 250 arms manuals in the research of this book. Mr. Smith is an authority on weapons, and has specialized in this field since he was ten years of age. In this revised and enlarged edition of "Small Arms of the World," he includes a thorough history of gunpowder and small arms. Descriptions are accurate of the more significant developments, especially in weapon design. Details are given of the development of rockets, recoilless rifles, handguns, shotguns, rifles, machine and submachine guns.

The section devoted to the weapon of 29 countries includes an absorbing chapter which examines Russian weapons. The writing is not technical nor tedious, but is readily understandable by anyone interested in small weapons. This authentic volume should prove of interest to novices as well as experts on weapons.

Health Care

"MODERN OCCUPATIONAL MEDICINE," Edited by A. J. Fleming, C. A. D'Alonzo, and J. A. Zapp (Lea and Febiger, 414 pages, $10.00).

Few organizations have had the extensive experience, personnel and success in providing employee medical care and in establishing on-and-off-the-job preventive measures as has the E. I. du Pont de Nemours & Company. Now, for the first time, these highly organized, proved methods have been compiled and edited by 20 du Pont

medical and health authorities and made available in book form to all who are in any way concerned with occupational medicine.

Adequate health care is the theme throughout this important work. The first chapters present data that will permit a proper evaluation of medical services, administration, functions, personnel, equipment, records, history and physical examination. The authors then go into the actual problems met daily in the practice of occupational medicine. These include toxicity hazards, use of protective clothing and the causes of absenteeism due to contact, infectious, and other diseases.

The effect of variations in temperature and humidity, of noise, fatigue and radiation hazards are taken up fully. There are sound discussions of safety, how to cope with "occupational back," rehabilitation of the alcoholic, medicolegal aspects, acute poisoning, toxicology and other subjects pertinent to medicine in industry.

This complete work presents highly dependable information that is useful to every doctor in or about to enter industrial practice or be concerned with administrative procedures. It is of exceptional value to executives, plant managers, safety engineers, physicians in public health work, lawyers, nurses, dietitians, and of special interest to those engaged in governmental positions where the health of many persons is of prime importance.

Recommended Reading

"THE AMERICAN CONCEPT OF LEADERSHIP," by Col. Sherman L. Kiser, USA (Ret.) (Pageant Press, $4.00).

Watch for forthcoming review on this book. Col. Kiser is an outstanding authority on the true concepts of leadership, and military men will gain a mature understanding of workable principles by reading this book.

"HOW TO LIE WITH STATISTICS," by Darrell Huff (W. W. Norton & Co., 142 pages, $2.95).

After careful perusal of these pages, one might arrive at the conclusion, never believe anything in statistical form.

"THE TECHNIQUE OF HANDLING PEOPLE," by Donald A. Laird and Eleanor C. Laird (189 pages, $3.75).

Valuable help for those desiring good results in human relations.

"LOOKING BEYOND," by Lin Yutang. (Prentice - Hall, 387 pages, $4.95).

A novel by one of the foremost Chinese philosophers and scholars.

"SOMETHING OF VALUE," by Robert Ruark. (Doubleday, 566 pages, $5.00).

A bombshell of a novel about men in Africa hunting and destroying other men.

"THE TWELVE PICTURES," by Edith Simon. (Putnam, 367 pages, $4.95).

Miss Simon adds to her laurels with this fine story of Siegfried and Kriemhild's revenge, the German folk epic. Readers of "The Enchanted Cup" and "The Golden Hand" will like this book.

"VICTOR HERBERT—A LIFE IN MUSIC," by Edward N. Waters. (Macmillan, 653 pages, $8.50).

The writer of "Ah, Sweet Mystery of Life," and "Kiss Me Again," lives again in the pages of this book. Vividly revealed is one of America's greatest light opera composers, a man who gave much in the enjoyment of American music.

SERVICE SCHOOLS

North Carolina State College, Raleigh, North Carolina. The first Joint Army-Air Force Commissioning Exercise was completed recently, when 144 ROTC graduates received their commissions in the Army or Air Force Reserve. Colonel Richard R. Middlebrooks, PMST and Colonel William J. Jowdy, USAF, PAS, were assisted in the graduation by Mr. Carter L. Burgess, Assistant Secretary of Defense, who spoke at the exercise and presented each graduate with his commission.

Harvard Business School, Harvard University. A new eight-month variation on their 16-month middle management program for executives, has recently been announced. The shorter version, designed for men who cannot stay away from their jobs for the full period, offers a certificate but no degree.

U.S. Naval Officer Candidate School, Newport, R.I. The 19th class graduation brings 373 new ensigns into the Navy. The Honorable Albert Pratt, Assistant Secretary of the Navy, was the principal speaker at the graduation ceremonies. Many will receive additional training before reporting aboard their new duty stations.

Ordnance Management Engineering Training Program, Rock Island Arsenal, Illinois. During the three years existence of O.M.E.T.P., 4000 diplomas have been issued to trainees and 200 groups have been graduated in basic, control, appreciation and advanced courses in management engineering techniques.

Navy Service School Command, NTC, Great Lakes, Illinois. A new $600,000 Gunnery Officers Ordnance School, was dedicated recently by Rear Admiral Emmet P. Forrestal, USN, Commandant, Ninth Naval District. The GOO School will instruct officers in gunnery operation, maintenance and administration.

Northwestern Traffic Institute, Evanston, Illinois. A group of key Army safety personnel completed a four-week course in military vehicle safety and traffic regulation, last month bringing the total to graduate from the Institute's Army Course to 403. Major General George C. Stewart, ret., general manager of the National Safety Council, Chicago, was guest

speaker at the graduation ceremonies.

Navy Submarine School, New London, Conn. The Department of the Navy has selected 120 officers to attend the next class at the Submarine School which convenes early this month. The next class will begin in January 1956, and the Navy is accepting applications from junior officers for the next six-month course. A new course designed to train officers and enlisted men in the basic theory of nuclear power is also scheduled to start in January, 1956. Present training is conducted by private contractors in conjunction with the Atomic Energy Commission.

Army Command Management School, Fort Belvoir, Virginia. Senator William A. Purtell (Republican, Connecticut) was the principal speaker at the ceremonies opening the sixth class of the Army Command Management School. Fifty-two class members, ranging in rank from lieutenant colonel to brigadier general and civilian employees in grade GS-13 or higher, heard the Senator outline the need for recognition of modern management methods.

Air University, Maxwell Air Force Base, Alabama. Major General Dean C. Strother, USAF, has assumed command of the Air University. General Strother has been "acting" following the departure of Lt. Gen. Kuter, USAF, who assumed command of FEAF on 1 June.

United States Military Academy, West Point, New York. President Eisenhower has nominated and the Senate has confirmed 469 West Point cadets for appointment in the Regular Army as second lieutenants.

United States Naval Academy, Annapolis, Maryland. Seven hundred and forty midshipmen were graduated from the Naval Academy at commencement ceremonies last month. The graduating class includes 451 slated as line officers in the Navy, 41 in the Naval Supply Corps and four in the Civil Engineer Corps.

HONEYWELL MICRO DIVISION OPENS THREE NEW OFFICES

Establishment of new sales and engineering offices in Phoenix, Charlotte, and Denver is announced by MICRO SWITCH, a division of Minneapolis-Honeywell Regulator Company.

MICRO SWITCH, with headquarters in Freeport, Ill., is a leading manufacturer of precision snap-action switches for industrial and aircraft uses. Although some of these switches are so small that 258 of them weigh only one pound, they will repeat their precise action millions of times without failure. The complete MICRO SWITCH line includes more than 8,000 different types to meet specialized switching requirements.

United States Coast Guard Academy, New London, Conn. The Coast Guard Academy graduated 76 new ensigns last month, and every one of them is being sent to sea. Undersecretary of the Treasury Randolph Burgess was the commencement speaker, and the last review of the year for the Cadet Corps was taken by Vice Admiral Alfred C. Richmond, Commandant of the United States Coast Guard.

United States Air Force Academy, Lowry AFB, Colorado. Air Force Secretary Harold E. Talbott has named 301 cadets for the first class of the United States Air Force Academy, which convenes on the 11th of this month.

Fort Leavenworth, Kansas. Graduation exercises were held recently for the 284 students who have attended the Associate Command and General Staff Officer Course. The 16-week Associate Course qualifies officers for duty with the general staff of combat divisions and logistical commands, and familiarizes them with the duties of the general staff at corps and army or communications zone level.

Air Force Management Training Program, George Washington University, Washington, D.C. 101 high-ranking Air Force officers and civilians recently completed the last course at George Washington University. The program seeks to improve the executive abilities of Air Force officers by introducing them to techniques and principles practiced by American business and industry.

2nd ANG Cross-Country Jet Race Set for 2 July

The second annual cross-country jet race between Air National Guard pilots will be held 2 July.

The Air Force Association, sponsors of the competition, has asked each of the 22 ANG wings to nominate one pilot to compete in the event. Winner will receive the Earl T. Ricks Memorial Trophy.

The speed run between Los Angeles and Detroit was won last year by Lt. Charles J. Young, a member of New Jersey's 141st Fighter Squadron, who flew a North American F-86 Sabre Jet the course distance in three hours, 27 minutes and 13 seconds. His average speed was 560.44 miles per hour. The trophy will be presented to the winner at the Association's annual convention 10-14 Aug. in San Francisco.

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How to Use Armed Forces Management's Library—

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

AMERICAN MACHINE AND FOUNDRY COMPANY. A 36-page booklet on *Simplified Drafting* has just been released, and is available on organizational letterhead. Through the medium of sample drawings of engineered parts and assemblies, the eleven rules—from the use of word descriptions for simple parts to making free-hand drawings wherever possible—are illustrated and a straightforward comparison made between traditional and simplified methods.

For more facts request No. 65 on reply card

PROLESEL INCORPORATED. This leading manufacturer of ice machines for hotels, restaurants, schools, institutions and military installations, has recently published an 8-page brochure describing the advanced features and advantages of the Kleer Kube Ice Maker. The "Inverted Rain" processs—exclusive on this machine—is illustrated and space devoted to its purifying effect and efficient operation.

For more facts request No. 66 on reply card

HOPKINS ENGINEERING COMPANY. Announcement has been made of their new subminiature metallized paper capacitors with new lead location availabilities. Such new lead locations as axial leads, radial leads and single end parallel leads, lend themselves strongly to the popular field of automation. These new leads are available in all capacitor sizes as well as on special units to meet specific requirements.

For more facts request No. 67 on reply card

WESTPORT ELECTRIC CORPORATION (See Cut). The WE-110 electronic frequency meter and counter employs recently-developed glow transfer tubes and simplified circuitry to obtain a sensitivity of 50 millivolts rms and a freqeuncy response up to 50 kc. The unit was designed for use with low output electrical transducers such as a magnetic or photo-electric speed pickups to measure rpm; turbine-type flow meters; and velocity or acceleration pickups to measure vibration freqeuncies. Used with audio oscillator, the

WE-110 provides ten-fold increase in frequency accuracy, and, in addition, can be used as a time interval meter.

For more facts request No. 68 on reply card

EASTMAN KODAK COMPANY. A free booklet on the new KODAK Signet 35 camera is available to interested personnel. This camera has been designed to do a multiple job, and has been used by management sections in time and motion studies. The Kodak Signet 35 has all of the advanced features necessary for taking quality industrial photographs. This moderately priced camera has proven its value in many operations.

For more facts request No. 69 on reply card

BLONDER-TONGUE LABORATORIES. This organization proudly announces a top quality closed-circuit TV camera to complement their widely known "Masterline" and "Add-A-Unit" TV distribution equipment. This new camera is ideal for numerous applications in the military field, manufacturing, inspection, protection, communications, transportation, educational and entertainment areas. The compact 18 tube control unit consists of a sncy generator modulator and power supply. It may be located up to 500′ from the TV camera. The control unit is fixed tuned and has two crystal controlled RF outputs plus one video output.

For more facts request No. 70 on reply card

THE WALPOLE COMPANY. Circles and arcs up to 12 feet in diameter can be made quickly and accurately with a beam compass rule manufactured in Sweden. After the tape is locked to the desired radius, the center point is pressed into the paper or other surface, and a pencil point inserted through the hole in the end of the tape to draw the desired curve. The steel tape is calibrated in 32nds of an inch.

For more facts request No. 71 on reply card

FEDERAL SIGN AND SIGNAL CORPORATION. A new brochure on industrial signal literature is available to interested installations. All hazardous places or operations cannot be eliminated, but their existence can be identified and pinpointed with an audible or visual warning signal. A small investment in a FEDERAL Beacon Ray Light, Siren, Horn or Bell can save a life, avoid a painful injury or prevent a mechanical failure.

For more facts request No. 72 on reply card

HYSTER COMPANY. Full details are now available on the new Hyster HYSTRAMATIC DRIVE (fluid torque converter for YC-40 and UC-30 Lift Trucks). This new drive offers the best control of lift truck power and makes possible smoother, faster and more efficient operation.

For more facts request No. 73 on reply card

RUST - OLEUM CORPORATION. Are you interested in cutting wire fence re-coating costs? A new, exclusive, different-type roller, with greater diameter, specially selected skins, extra-long Lamb's Wool—all combine to give you more coverage, faster and easier in the new Rust-Oleum Roller-Coating System.

For more facts request No. 74 on reply card

VEEDER - ROOT INCORPORATED. Announce a new magnetic counter, compact and easily connected. This completely reliable counter may be actuated by any type of switch, relay or photoelectric unit. This low-priced counter performs superbly in any field from atomics to electronics.

For more facts request No. 75 on reply card

TROPICAL PAINT COMPANY. Below-roof heat can be cut 13-26 degrees immediately by brushing or spraying the new Tropical Roof Coolerant. This non-staining, bright metallic coating reflects up to 70% radiant heat away from the roof. Anyone can apply this new coolerant quickly, easily and with a minimum cost.

For more facts request No. 76 on reply card

PRECISION EQUIPMENT COMPANY. A new heavy-duty power mower and mulcher with a full 18" cutting width, speeds lawn care and eliminates forever old fashioned lawn cutting and leaf raking. The heavy, 1-piece, nonbreakable chassis combined with

fine-ground super-hardened blades which are adjustable from ¾" to 2¾", has made this new mower a must for management-minded operations. This remarkable mower, regularly priced at $84.00, is available for $49.95 until July 31, 1955.

For more facts request No. 77 on reply card

MINNEAPOLIS-HONEYWELL REGULATOR COMPANY. Offer interested military installations a new catalog No. 75, with complete information covering subminiture switches, actuators and assemblies. The 12-page brochure covers groups of single-hole bushing-mounting subminiature toggle switches, in addition to the complete line of rotary selector switches with from two to eight basic switches.

For more facts request No. 78 on reply card

DIRECTO TRUCK COMPANY. A new and unusual hand-truck with its two wheels traveling sideways as well as the conventional forward direction, has recently been announced. Anyone who has ever handled a hand truck will appreciate immediately the advantage of being able to shift roll of this truck from one side or other, or to front and backward directions. In tight places, narrow aisles or for inching into position, this new truck has become revolutionary in its application.

For more facts request No. 79 on reply card

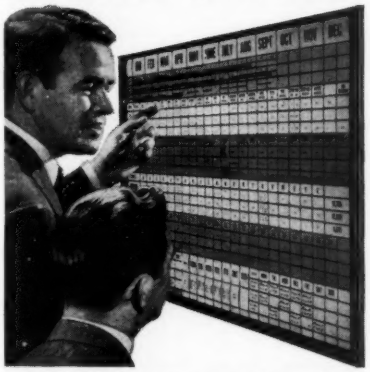
VISI - SHELF INCORPORATED. A brochure describing the new, space-saving Visi-Shelf Filing System has recently been completed. This brochure explains in detail how military organizations can recover space given over to the filing of records for other uses, as well as achieve savings in the filing operations.

For more facts request No. 80 on reply card

BLACK AND DECKER. The World's most complete line of portable electric tools have a new edition of their 1955 catalog available to military installations. This electric tool headquarters has in addition, a complete line of attachments and supplies. Catalog is complete and lists prices for your information.

For more facts request No. 81 on reply card

You Get Things Done With Boardmaster Visual Control



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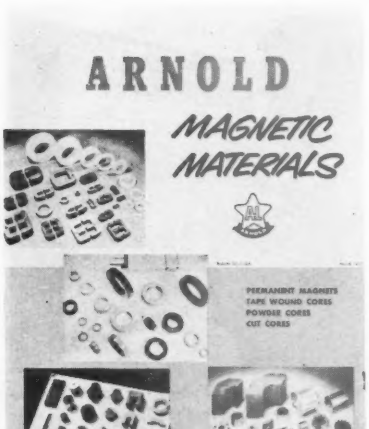
For more facts request No. 90 on reply card

ADDRESSOGRAPH - MULTIGRAPH CORPORATION. A new portable, low-cost addressograph model 30, is available for almost every office. Lightweight (19 pounds) and compact, this new business tool extends the traditional advantages of the Addressograph plate to every department. Costing but $115, this new machine does an hour's manual work in minutes.
For more facts request No. 82 on reply card

ECONOMY ENGINEERING COMPANY. Offers for your approval a new ECONOMY WALKIE-WORKLIFTER, a battery-powered, self propelled lifter in the low-price field. This completely new 1000-pound lifter is complete with batteries and charger for $1148. Capable of turning sharp corners in narrow aisles, this safety-designed lifter can be operated into position with simultaneous up and down movements.
For more facts request No. 83 on reply card

THE ARNOLD ENGINEERING COMPANY (See Cut). A new bulletin, GC-106A, covering the large variety of magnetic materials manufactured by this organization, is available to interested organizations. The items listed include Cast and Sintered Alnico Magnets; Silectron "C" and "E" Cores; Deltamax, 4-79 Mo-Permalloy and Supermalloy Tape Cores and Molybdenum Permalloy Powder Cores, as well as many specialized products.



For more facts request No. 84 on reply card

PITNEY - BOWES INCORPORATED. A timely and informative booklet has been prepared for military installations who are interested in saving dollars and personnel with Metered Mail. The facts printed in this booklet are especially significant in these days of increasing competition . . . when you can't afford to ignore anything that might benefit the installation and reduce overhead costs.
For more facts request No. 85 on reply card

HOME INSURANCE COMPANY. An illustrated handbook for the home craftsman has been published by the Home Insurance Company, with emphasis on safety precautions to take when working with power tools, hand tools, electricity and paints.
For more facts request No. 86 on reply card

W. S. DARLEY & COMPANY. (See Cut) Catalog No. 151 is specifically designed for Fire Protection Organization, Post and Base Engineer's and others responsible for fire and safety. W. S. Darley for 47 years have been leaders in Police, Fire and Municipal supplies.

For more facts request No. 87 on reply card

LESTER B. KNIGHT & ASSOCIATES, INC. Experienced management Counsel and specialized services to Armed Forces Management is offered by Knight engineers. If your operation will benefit by highly specialized skills in financial management, paperwork management, management controls, or plant engineering, a Knight representative will call upon your inquiry.
For more facts request No. 88 on reply card

EQUIPTO DIVISION OF AURORA EQUIPMENT COMPANY—Manufacturers of factory and shop equipment for the past forty years, Equipto will send their free, illustrated catalogue, covering a wide variety of products, to interested Defense personnel.
For more facts request No. 89 on reply card

GRAPHIC SYSTEMS. This New York firm invites men interested in efficient management to get things done with their Boardmaster Visual control which gives a graphic picture of your operations, spotlighted in color, preventing errors, saving time and money.
For more facts request No. 90 on reply card

GREYHOUND LINES INCORPORATED offer inexpensive, dependable transportation to any point in the United States. More and more military departments are finding Greyhound the answer to personnel movements.
For more facts request No. 91 on reply card

WHITTEN TRANSFER. This common carrier of explosives serving W.Va., Ohio, Va., Kentucky, Pa., Maryland, North Carolina, Illinois, and New Jersey with interlines of other common carriers offers shipping service for explosives or blasting supplies. Central offices are in Huntington, W.Va.
For more facts request No. 92 on reply card

BUCKINGHAM TRANSPORTATION, INC.—This safety-conscious motor carrier has hung up some enviable safety records, collected a lot of awards, and keeps its fleet rolling over the highways of South Dakota, Nebraska, Wyoming, Minnesota, Montana and Colorado, meeting commitments of an ever-increasing business.
For more facts request No. 93 on reply card

DETAR DISTRIBUTING CO., INC. With general offices in Oklahoma City, Oklahoma, this contract carrier of explosives including Class A and B has available inter-state service between all points and places in the states of Kansas, New Mexico, Louisiana, and Mississippi and intra-state service covering all of Oklahoma.
For more facts request No. 94 on reply card

GAR WOOD INDUSTRIES, INC. The new Gar Wood "strong arm" hoist is announced on the market. Available in from 8 to 27½-ton capacity types, the new hoist offers more lifting capacity per lb. of weight, longer life through better engineered construction, and trouble-free service with easier maintenance.
For more facts request No. 95 on reply card

CLARK EQUIPMENT COMPANY. Now available from this Michigan firm are a complete line of U-L approved LP-Gas lift trucks in 2000 to 7000 lb. capacities. Substantial savings in materials handling can be had with these trucks through lower fuel cost, less maintenance, cheaper fuel.

For more facts request No. 96 on reply card

LOCKHEED AIRCRAFT CORP. Announces the new giant of the industrial South, the USAF C-130 Hercules. This, the first turbo-prop transport for military air power, is being produced for the Air Force at Lockheed's Marietta, Ga., plant.

For more facts request No. 97 on reply card

DAVENPORT BESLER CORP. This Iowa firm which has served all branches of the Defense Department points to an enviable record of custom building locomotives to meet the specific needs of the Department.

For more facts request No. 98 on reply card

GOVERNMENT EMPLOYEES INSURANCE COMPANY. Complete protection on automobile insurance plus savings over standard rates of up to 30% are available from this firm. Unexcelled claim service and nation-wide protection are offered by this firm with over a quarter million policyholders. The savings and protection are for government employees and armed forces personnel.

For more facts request No. 99 on reply card

CURTISS-WRIGHT CORPORATION. Makers of some of the world's finest aircraft engines, this firm reveals a hint of the power it packed into the Grumman F9F-9 "Tiger" with its J65 Jet. The J65 Jet develops higher power than its announced rating of 7220 lbs. thrust with 6% less fuel.

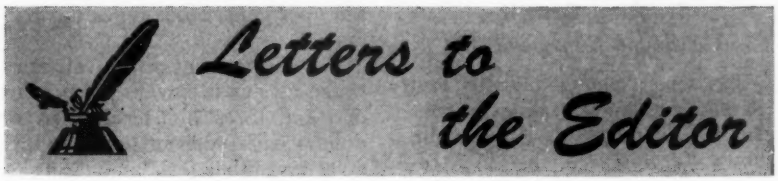
For more facts request No. 100 on reply card

Dollars for Defense

The Hoover Commission's report on food and clothing for the Armed Forces indicate an often overlooked cost in National Defense.

Annual uniform purchases amount to: Army, $133-million; Navy, $61-million; Air Force, $79-million; Marine Corps, $22-million.

Annual food purchases amount to: Army, $426-million; Navy, $207-million; Air Force, $225-million; Coast Guard, $8-million; Marine Corps, $70-million.



Dear Editor:

Having noted on page 35 of your May issue that Georgia Tech claims the first female Army, Navy or Air Force, R.O.T.C. cadet, I beg your indulgence for my disclaimer. During the fall of 1951, while I was the P.M.S.&T. at the University of Michigan, we officially enrolled in the Dental R.O.T.C. unit, one very attractive, interested and capable young lady. The action created headlines at the time, and an amazed Pentagon kicked a series of DF's through the offices. No one could find an official reason for disallowing the enrollment. Some bright chap finally got out a letter to us advising to drop our cadet at the termination of the first term, as regulations would be issued precluding such practice. We regretfully complied and I should like to state that our cadet was gradewise at the top of her unit.

Yours very truly,
C.D.W. Colonel, Infantry

Editor's Note: Thanks, Colonel

. . .

Dear Editor:

As an officer in the Tactical Air Command, I should like to know if our branch, the most important in the United States Air Force, is ever going to make your cover and let your readers hear about our management program which tops all others?

B.B.J. Captain, USAF

Editor's Note: The Tactical Air Command is scheduled for our December, 1956 issue. Drawn from the hat, we are sorry you are so far away, but at least you made it. We are awaiting concurrence from General Weyland, but do not think he will let you down.

Dear Editor:

The article entitled "Comptrollership at a Navy Field Activity," by Captain G. L. Countryman, USN which appeared in your magazine ARMED FORCES MANAGEMENT, Vol. I, No. 8, May 1955, is considered an excellent coverage of the subject. As you undoubtedly know the comptrollership concept is relatively new to the Department of Defense. I believe the reading of this article by field personnel engaged in comptrollership work will be a valuable aid in furthering the understanding of Comptrollership in modern management.

R.K.J., Captain, USN

Editor's Note: Thank you, Captain. We have had several reports such as yours on Captain Countryman's fine article.

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For more facts request No. 92 on reply card

Trucking Growth

(Continued from page 15)

The dependence of industry and communities on the motor carrier can be documented. It can be shown, for instance, that in a recent study of freight traffic in Indianapolis, it was found that 70 per cent of all freight tonnage moving in and out of the city was by truck.

And Mayor Cobo, of Detroit, is on record as saying that if a main assembly plant in that area were to shut down, it would be followed within an hour by the closing of three or more supplying plants, so closely are suppliers integrated into their functions.

We could take a look at agriculture, too. The trucking industry is so pervasive that the constant appearance of trucks in our vision is taken as a matter of course. But 27 per cent of all the registered trucks in the country are on farms. The average rate of increase is about one hundred thousand each year. In addition to these, there are roughly a million and a quarter trucks that are engaged principally in hauling farm products. Fifty-one per cent of all fruits and vegetables move to 20 major wholesale markets by motor carrier; four of every five head of livestock transported are over the highways; of 63 major livestock markets, 10 receive all of their shipments by truck, and 17 get over 90 per cent over the highway; 68 per cent of the butter, 75 per cent of the fluid milk, 99 per cent of the eggs and live poultry, 85 per cent of dressed poultry, and 80 per cent of the commercial fertilizer that is moved, also goes by highway.

Trucking Grows

In reaching its present position, the trucking industry has grown from a total of 400 registered trucks in 1904 to almost 10 million today.

Within that total are such significant facts and figures as these:

There is a truck registered and working for every 16 persons in our population.

Trucks comprise about 17 per cent of all the vehicles on our highways. Of this total, combinations and trailers make up about one per cent, panels and pickups about nine per cent, other types the balance.

This 17 per cent of the vehicular traffic on our highways pays about one and three quarter billions of dollars each year in licenses, fuel taxes and other fees, amounting to 33 per cent of the total paid by all vehicles . . . and the big combination tractors and trailers, about one per cent of the total number, contribute almost 12 per cent of these taxes.

Such increases as these have been registered; the movement of household goods in 1953 was 74 per cent greater than the average for 1947-49 . . . for the same period, shipments of heavy machinery increased 64 per cent—liquid petroleum products 54 per cent— refrigerated solid products, 85 per cent.

The trucking industry, hauling about three quarters of the freight that moves in the country, employs some seven million persons—making it the largest single employer except agriculture—and issues one of every ten paychecks made out to our employed people.

The motor carrier industry, like other segments of our transportation, is linked to defense. It has a dual responsibility: to continue to meet the demands made on it for handling a preponderance of the freight tonnage that moves in this country; and the obligation of maintaining the civilian fleet of trucks at a maximum of efficiency and of availability for the national defense.

Since our military first conceived that the motor truck could make an important contribution to the mobility of its operations, the versatility of the motor vehicle has been incorporated into military plans. It must be obvious that trucks are the most flexible – and for defense needs the most dependable—form of transport that we have.

When events precipitated the United States into the First World War, it was the truck that relieved strangling congestion around suddenly overloaded rail terminals. It was then, too, that trucks began to weave a new pattern of transportation, by giving war plants greater access to sources of materials, and by providing a shuttle operation that meant faster fabrication and delivery of essential products for our troops and our Allies in Europe.

We were better prepared and better mobilized as an industry in the Second World War. Even so, the dependence placed on the motor carrier was much greater than ever before. More and better roads enabled trucks to go longer distances; to haul up to three-quarters of inbound and outbound freight at war plants; and to link the war plants with rail and water terminals. It was the truck that made possible the vast subcontracting program which brought an astonishing number of smaller plants into the war production program. For, with roads running into every town and village, a community, regardless of size or accessibility, became a potential arsenal of supply for our national defense.

Now, if we look into the future, we can cite some projections that a Presidential Materials Policy Committee of not so long ago made for 1975. Using 1950 as a base, the

U. S. Air Forces in Far East to Reorganize Into Five Units

Far East Air Forces has announced the Fifth Air Force has been reorganized into five separate and more independent air divisions.

Three will be based in Japan, one in South Korea and another on Okinawa.

The present 20th Air Force on Okinawa has been redesignated the 313th Air Division in the changeover, retaining the same commander, Maj. Gen. Fay R. Upthegrove.

In Japan, the three air divisions correspond roughly to the three geographical areas of the country. The 39th Air Division, under command of Col. William P. Elder is now in Northern Japan with headquarters at Misawa Air Force Base. The 41st, commanded by Col. Cecil P. Lessing, operates in Central Japan with headquarters at Johnson Air Force Base near Tokyo. The 43rd Air Division covers Southern Japan under command of Col. Samuel J. Gormly, with headquarters at Itazuke Air Force Base.

Committee said that 20 years from today we could expect:

The gross national product to double.

A population of 190 millions, who would have 170 automobiles in use for every 100 that were on the roads in 1950, who would demand 50 per cent more appliances and 30 per cent more durable goods, and require the services of 250 trucks for every 100 that were operating in 1950. In other words, we can expect 20 million trucks on our highways in 1975.

In addition—if this project is borne out—the trucking industry in 1975 will expend two and a half times as much money as it did in 1952; it will require twice the number of replacement tires, two and a half times as much fuel, two and a half times the replacement parts and accessories, and will employ almost 14 million people.

That is a good sized future. And to make it come true, there must be some new roads in this Nation. We hear a lot of talk about trucks being hard on the roads. The answer to that is that trucks do not harm any road that is adequately engineered and properly constructed. Road construction and durability are equal only to the abilities and the integrity of those who build them. There are factors of weather, of materials, and of workmanship to be considered, and it can be shown that these are as responsible as any other factor for road defects showing up.

Raising Standards

The American Trucking Association works constantly with governmental and private agencies, attempting to raise the standards of road construction, so that all the vehicles that share the tax load which pays for construction and maintenance will have adequate roads for their several purposes. The industry feels that it is paying its fair share of taxes—but is not in all cases getting a fair return in the kind of construction that is necessary for today's highways.

A comprehensive highway construction program has been suggested to the Congress by President Eisenhower. At this date, the Congress is considering the matter. The principal stumbling block is the method of financing. Other plans are being brought up. We in the industry are constantly pointing out the imperative need for an improved highway system. We feel that most of the Congress realize the urgency, and it is our hope and belief that the Congress and Administration will soon have a program ready which will get this enormous project rolling.

Thanks to modern transportation which makes possible mass distribution, our engineers and scientists in every line of creative endeavor, can continue to develop the products of their creative ingenuity in the sure knowledge that our magnificent economy and our transportation system both insure a market for what they make.

An average American family today lives far better than the most fabled royal figure in history. No one of the fabulous kings or emperors from Solomon in all his glory down to the last Czar of all the Russians, had the creature comforts at his beck and call that are available to our people here today.

As we move into the atomic age and the age of chemistry, with all of its promise, and with all of the threats, we can be sure of comfort and convenience and of a big measure of security as well, just so long as we protect, and develop that transportation system which makes possible the most effective movement of goods and of people.

Lightship

Since the earliest times of transoceanic travel mariners have felt the need for an aid to navigation which could be passed close aboard and would place the vessel in the channel to busy ports. The earliest forms of these aids were called light-boats, which burned oil-soaked wicks lying in a bath of oil aboard over-sized row boats.

From this rudimentary beginning progress has been made in the methods of providing illumination for the lanterns or lights in what are now known as lightships.

Fish oil was used in 1820 and this was followed by sperm oil, colza oil, lard oil and kerosene. Then in 1892 the first U.S. lightship with electric lights appeared—the Cornfield Point Lightship No. 51. It was an 118-foot iron hull, sail-rigged and steam-propelled vessel with two 67-foot high light masts. Each mast was provided with four 100-candlepower electric lamps. In addition, for lighting the interior of the lightship, she was equipped with 20 16-candlepower electric lights. As a further aid to navigation, "No. 51" was equipped with a 12-inch steam fog whistle for "blasting a warning" in foul weather. Later in her career she was provided with submarine bells for warning those vessels equipped for that type of signal.

Progress in the development of lightships today is undiminished; some lightships have been replaced by large buoys which perform all the functions of their predecessors automatically through controls ashore. Other developments underway may allow lightships to become fully automatic in the future—providing full safety for less manpower.

CIVILIANS REPLACE SOLDIERS

Civilian personnel have replaced 221 soldiers at Fort Dix in "Operation Teammate"—a several-months-old Army-wide program of rotating troops back to military jobs and replacing them with civil service workers.

Most of the soldiers returned to the field were clerks, typists, drivers, meatcutters, bakers, warehousemen and laborers. By midsummer, the post anticipates adding more than 500 additional civilians in the gradual replacement program.

A 69th Division spokesman declared that surveys have proved that the civilian can do non-combat work at less cost to the government. The reason for this is that indirect costs, such as food, housing, clothing, medical care, in addition to pay, are included in the cost of maintaining a soldier.

NEWS BRIEFS from the SERVICES

2900th Air Depot Wing (Mobile) AMC, Kelly AFB, Texas. Fully operational early this month, the 2900th has been activated to provide mobile teams for fulfilling the Air Force's world wide supply, maintenance and transportation requirements. The new Wing, first of its kind, will be composed of a headquarters at Kelly Air Force Base, five Air Depot Groups (Mobile) and an armament and electronics maintenance squadron (Mobile) which will be located at Robbins Air Force Base, Georgia.

Fort Campbell, Kentucky. The 508th Airborne Regimental Combat Team will be flown to Kyushu Island, Japan this month, replacing the 187th ARCT in the first regimental-size rotation movement under Operation Gyroscope. The paratroopers will be transported in C-124 Globemaster aircraft of the Tactical Air Command's 18th Air Force. The aircraft will return the 187th from its Far East assignment to its new stateside home, Fort Bragg, North Carolina.

Cherry Point, North Carolina. The Director of Women Marines, Colonel Julia E. Hamblet, USMC, paid her annual visit to the Marine Corps Air Station recently to inspect the Women Marine Detachment. She commanded this same unit during World War II when it was known as Aviation Women Reserve Group-1 and had 2600 members.

McClellan Air Force Base, SMAMA, Sacramento, California. The importance of having an effective Records Management Program was recently illustrated when staff organizations met in the Officer's Club, to launch a concerted drive to pare down paperwork which is costing SMAMA alone more than a million dollars annually. Special guest was Lt. Col. Toffaletti, Command Records Management Officer from Headquarters AMC.

Fort Dix, New Jersey. Brigadier General Robert W. Ward, Chief of the Allied Powers (SHAPE) training mission to the Royal Netherlands Army for the past three years, has reported to Fort Dix to assume new duties as Assistant Commander of the 69th Infantry Division.

Army-Air Force Exchange Service, New York (See Cut). Honor region trophy was awarded recently to the Chicago Regional Office of the Service for management improvement. Major General H. L. Peckham, Chief, A&AFES, second from the left, presents the award to Lt. Colonel John W. Gwinn, Chicago Regional Officer, third from left. Also participating in the ceremony at New York headquarters are Colonel Eward B. Gallant, Deputy Chief, A&AFES, left, and Jesse Bird, Chief of Operations for the Chicago Regional Office, right. The management trophy is named in honor of Major General Edward H. White, who was Chief of the Exchange Service from July 1951 to June 1954.

Harmon Air Force Base, Newfoundland. A new hospital, costing approximately 2 million dollars is being built at this Base. The Air Force Hospital will be the only permanent one in the Northeast Air Command. Scheduled for completion in December, the hospital will have a capacity for 100 beds and is being constructed on the latest hospital management plan.

18th Air Force, Tactical Air Command. The first phase of an Arctic airlift in support of the DEW Line, distant early warning network in Alaska, called "Operation Big Haul," has been completed. Assisted by the Alaskan Air Command's 54th Troop Carrier Squadron, the Air Force C-124 Globemasters, flying round-the-clock frequently in hazardous weather conditions to the northern rim of the Alaskan Peninsula, airlifted over 6600 tons of equipment.

Loring Air Force Base, Maine. The Armed Forces' television station is using the airwaves to help service wives with their problems. Television station AFL-TV recently inaugurated a dependents' assistance course, consisting of a panel of six wives of Officers and Airmen who appear regularly on the program.

463rd Troop Carrier Wing, Ardmore Air Force Base, Oklahoma. The first military airplane to be equipped with a lift measuring instrument that tells the pilot the best speed to fly on landing, take-off and other low-speed flight conditions will be delivered to the 463rd Troop Carrier Wing this month. The airplane is the Fairchild C-123B assault transport, and the instrument is known as a Speed Control System, developed by Safe Flight Instrument Corporation, White Plains, New York.

Holloman Air Force Base, New Mexico. A new model of the Aerobee rocket recently soared aloft from Holloman a record 123 miles into the air, on its first flight. The rocket is powered by a motor delivering 4,000 pounds of thrust. During its initial flight, the nose cone carrying the instruments designed for solar radiation was blown off and a parachute automatically opened carrying the 195-pound cargo earthward.

USNS General G. M. Randall, New York. A change in home port for the RANDALL from Seattle to New York, became a

true family affair recently. 116 wives and children belonging to Navy crewmen climbed aboard in Seattle, settled down in the ship's cabins, and set course for New York with their fathers and husbands furnishing first class transportation.

Marine Aircraft Group-32 (Second MAW) Cherry Point, North Carolina (See Cut). "PARATUS SERVIRE" the motto of Marine

—Official USMC Photo—

Aircraft Group-32, Second Marine Aircraft Wing, Cherry Point, N.C., is depicted by the new emblem officially adopted by the Group. Holding the emblem are Colonel Robert H. Richard, Commanding Officer of the Group and T/Sgt. R. A. Davis, Photo Interpreter. Technical Sergeant Davis collaborated with Major A. M. Kamp, recently reassigned from MAG-32 to G-1, Second Wing in designing the emblem.

United States Coast Guard. A new intergration policy—affecting all active and inactive duty Coast Guard Reserve officers and all temporary officers whose permanent status is warrant or enlisted—has been made official with the signature of Admiral Alfred C. Richmond, Coast Guard Commandant.

Fairchild Air Force Base, Washington. Rarely bestowed Air Force Honors were recently conferred on SAC's 92nd Bomb Wing, for its history-making flight to the Pacific in the fall of 1953. The unit has been made the recipient of the Air Force's Outstanding Unit Award, authorized only once previously in Air Force annals.

Naval Air Station, Alameda, California. NAS, Alameda has recently been awarded the coveted Group A Secretary of the Navy Award for Outstanding Achievement in Industrial Safety in 1954. This is the sixth time the unit has been so honored.

Westover Air Force Base, Mass. The Eighth Air Force in their move last month from Carswell Air Force Base, brought with them one of the Strategic Air Command's four training academies for top-ranking enlisted men. Major Richard S. Wilson, USAF, Commandant, who has graduated more than 500 sergeants in the nine months of operation, is a native of Massachusetts.

CONSERVATION THOUGHTS

Strategic Air Command, Omaha, Nebraska. A substantial savings in millions of dollars plus increased combat potential and greater utilization of personnel, are the results of a complete overhauling of SAC's supply system. Dubbed SAC-SIP, many improvements with the first year are noted. Stock items excess were returned to AMC to the sum of $150 million or 56%. Base supply time has been reduced by 70 per cent. Paper work was processed in less than half the time previously taken, or reduced by 58%. Aircraft out of commission awaiting parts is far below standards and reducing rapidly. A radio-equipped vehicle constantly patrols SAC flight lines for supply purposes. When a mechanic needs a part, he flags down the vehicle, tells the driver what he wants and a message is radioed to supply. The part is then delivered to the aircraft by a second vehicle which reduces the down-time to a minimum.

Office of Naval Material. The following suggestion themes are reprinted for your consideration from the NAVY CONSERVATIONIST.

January — Records Disposal Month—"Start the year off right by squaring away files."

February—Forms Control Month—"Streamline reports."

March — Cost Consciousness Month—"Yesterday's waste is the tax you paid today."

April—Food Conservation Month—"Clean plates save mess funds."

May — Spring Housecleaning Month

June — Funds Administration Month—"How firm are obligations? —Are public vouchers cleared?"

July — Water Saving Month—"Turn off the faucet on water waste."

August—Transportation Utilization Month—"There can be no vacation in conservation."

September—Maximum Material Utilization Month— "School yourself to make the most use of what you have."

October — Fall Housecleaning Month—"Take stock of equipment and check for adequate maintenance."

November—Heat Control Month—"Keep Jack Frost outside."

December—Electricity Conservation Month—"Short cloudy days and long nights are hard on the amperes."

Lockheed Aircraft Corporation, California. Here's a new conservation thought which has paid-off for Lockheed. Engineers can put in "overtime" at their own option. It is possible to boost salaries by as much as $150 a month by working five extra hours every week. When engineers are in "short-supply" this has accomplished more than its cost for Lockheed.

Headquarters Armed Forces Far East, Tokyo. Currency worth millions of dollars is being used to paper walls and wrap bundles. Lt. Col. Arnol A. Amunrud, found himself with $50,000,000 of an old series of MPC's, which had been withdrawn. To burn them would take approximately three months. Since this seemed a great waste of time and manpower, he consulted with the Bank of Japan. The economical Japanese had a solution—why not turn the MPC's into other paper products by chemical action? A paper manufacturer agreed to do the destruction job under Army supervision—at no cost if allowed to keep the pulp.

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ARMED FORCES
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Index to Advertisers

Buckingham Transportation, Inc. ..... **Fourth Cover**
This safety-conscious motor carrier has hung up some enviable safety records, collected a lot of awards, and keeps its fleet rolling over the highways of South Dakota, Nebraska, Wyoming, Minnesota, Montana and Colorado meeting commitments of an ever-increasing business.

Clark Equipment Company ..... **Page 1**
A complete line of U-L approved LP-Gas lift trucks in 2000 to 7000 lb. capacities is available from this firm.

Curtiss-Wright Corporation ..... **Page 2**
Makers of some of the world's finest aircraft engines, this firm hints at some of the power it packed into the Grumman F9F-9 "Tiger" with its J65 Jet.

Davenport Besler Corporation ..... **Third Cover**
This Iowa firm serving the Defense Department specializes in custom building locomotives to fit specific needs.

Detar Distributing Co., Inc. ..... **Page 35**
Contract carrier of explosives, including classes A and B, Detar Distributing has inter-state operations in 5 states. General offices in Oklahoma City, Okla.

Equipto Division of Aurora Equipment Company ..... **Page 31**
Manufacturers of factory and shop equipment for the past forty years, Equipto will send their free, illustrated catalogue, covering a wide variety of products, to interested personnel of the Defense Establishment.

Gar Wood Industries, Inc. ..... **Page 19**
The new Gar Wood "strong arm" hoist in 8 to 27½ ton capacity types is announced to the market.

Government Employees Insurance Company ..... **Page 8**
Complete protection and savings up to 30% over regular insurance rates are available on automotive coverage to government employees and armed forces personnel.

Graphic Systems ..... **Page 41**
Men interested in efficient management are invited to write this New York firm for information on its Boardmaster Visual control board to save time and money and prevent errors.

Greyhound ..... **Second Cover**
Bus transportation is authorized by military agreement and the leader in bus transportation is Greyhound. One move straight through by chartered Greyhound fleet does the job. Bus movement of troops is easier with door-to-door service, choice of routes by you, the traveler, and can be used for groups of any size.

Lester B. Knight and Associates, Inc. ..... **Page 39**
Experienced management counsel and specialized services to the Armed Forces Management groups are available from this firm with an outstanding record of achievement in its field.

Lockheed Aircraft Corporation ..... **Page 24-25**
One of the nation's leading aircraft firms announces production started on the new giant of the industrial South, the turbo-prop USAF C-130 Hercules transport.

C. I. Whitten Transfer Co. ..... **Page 43**
Headquarters at Huntington, W.Va., this firm is a common carrier of explosives, a direct coverage of 9 states and inter-lines arrangements with other carriers, covering the U.S.

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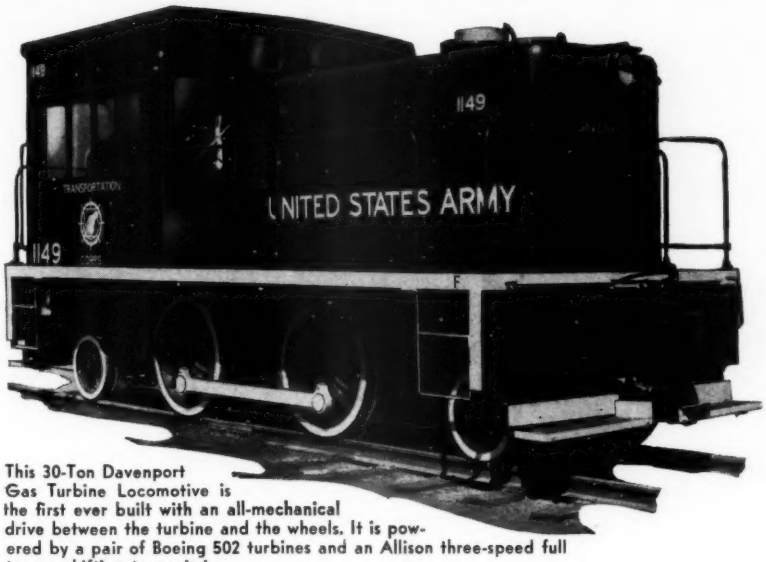

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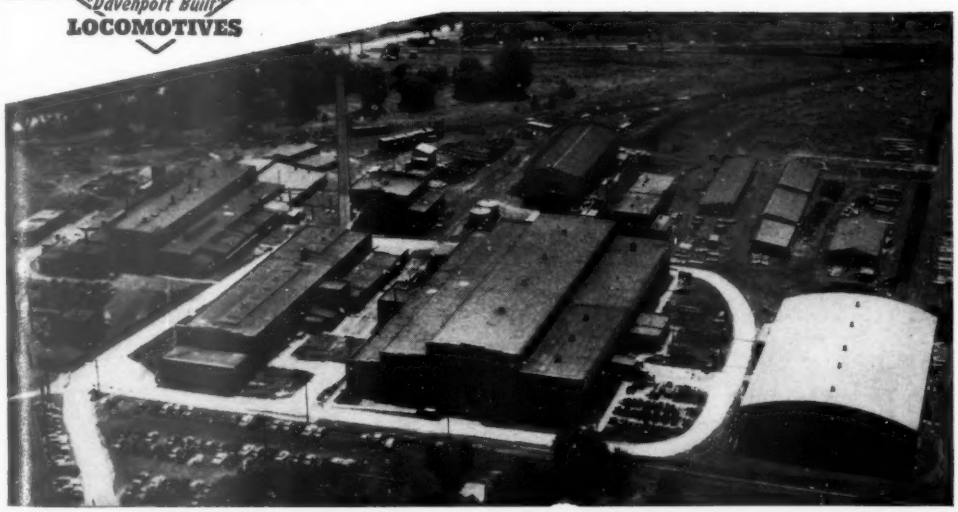

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